



ДЕПАРТАМЕНТ ОБРАЗОВАНИЯ И МОЛОДЕЖНОЙ ПОЛИТИКИ  
НОВГОРОДСКОЙ ОБЛАСТИ

ПОСТАНОВЛЕНИЕ

Р1. ДЧ. 80/15

№ 80

Великий Новгород

**Об утверждении административного регламента предоставления  
государственной услуги «Выдача заключения о возможности быть  
опекуном (попечителем), приемным родителем»**

В соответствии с Федеральным законом от 27 июля 2010 года № 210-ФЗ «Об организации предоставления государственных и муниципальных услуг» департамент образования и молодежной политики Новгородской области ПОСТАНОВЛЯЕТ:

1. Утвердить прилагаемый административный регламент предоставления государственной услуги «Выдача заключения о возможности быть опекуном (попечителем), приемным родителем».
2. Опубликовать постановление в газете «Новгородские ведомости».

Заместитель  
руководителя департамента



А.Г. Шепилова

Шепелева Валентина Юрьевна  
97-43-60  
шв 30.06.2015

УТВЕРЖДЕН

постановлением департамента  
образования и молодёжной  
политики Новгородской  
области  
от 01.04.2015 № 20

**АДМИНИСТРАТИВНЫЙ РЕГЛАМЕНТ**  
**предоставления государственной услуги «Выдача заключения о  
возможности быть опекуном (попечителем), приемным родителем»**

**1. Общие положения**

**1.1. Предмет регулирования регламента**

Предметом регулирования административного регламента предоставления государственной услуги по выдаче заключения о возможности быть опекуном (попечителем), приемным родителем (далее административный регламент) является определение порядка, сроков и последовательности действий (административных процедур) выдачи заключения о возможности быть опекуном (попечителем), приемным родителем.

**1.2. Круг заявителей**

Заявителями являются совершеннолетние дееспособные граждане (далее – заявитель).

**1.3. Требования к порядку информирования о предоставлении государственной услуги**

1.3.1. Информация о полном наименовании, месте нахождения, графике работы, справочные телефоны и адреса электронной почты органов местного самоуправления муниципальных районов, городского округа, непосредственно предоставляющих государственную услугу (далее органы опеки и попечительства), указана в приложении № 1 к административному регламенту.

1.3.2. Информация о порядке предоставления государственной услуги предоставляется:

непосредственно должностным лицом органов опеки и попечительства;  
с использованием средств почтовой, телефонной связи и электронной почты;

посредством размещения в информационно-телекоммуникационных сетях общего пользования (в том числе в информационно-телекоммуникационной сети «Интернет»), публикаций в средствах массовой информации;

посредством размещения на информационных стендах;

посредством размещения с использованием областной государственной информационной системы «Портал государственных и муниципальных услуг

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fmgbpbizevguo mkem] nmgdpbc<sup>a</sup>

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^Z g g u o h ^\_l y o h k l Z\ r b o k y [ \_a i h i\_q g b y j h^b l  
b g l\_j g i h j l Z e i j Z\ h\ h c b g n h j f Z p Z k g W D W S R J R Y U X

IjbdZ a F b g a^j Z\ Z J h k k b b h l g @ m l\ \_j`^\_g b b  
Ih j y^d Z f\_ ^b p b g k d h] h h k\ b^\_l\_e v k l\ h\ Z g b y ] j Z`^Z  
m k u g h\ b l v m^h q\_j b l v \ a y l v i h^ h i\_d m i h i\_q b l\_e v  
i Z l j h g Z l g m x k\_f v x k b \ h l \_\Phi ^\_h k d Z\ r b o k y [ \_a i h i\_q  
j h^b l\_e\_c Z I Z d`\_ n h j f u a Z d e x q\_g b y h j\_a m e v  
h k b^\_l\_e v k l\ h\ Z g b y I Z d b \ h k j Z b \ k g Z y ] Z a\_I Z

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: ^f b g b k l j Z l b\ g h] h j\_je Z f\_g k Z\ Z b\ g g b n k l j\_ j g g b o ^\_e J h k  
N\_ ^\_j Z p b b i h i j\_ ^h k l Z\ e\_g b x J h k m^Z j k l\ \_g g h c m k e m  
g Z e b q b b h l k m l k l\ b b k m^b f h k l b b b e b n Z d l Z m l  
e b[h h i j\_d j Z s\_g b b m] h k e\ g h] Z g i b y J h k k b c k d Z y ] Z

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f\_k l g h] h k Z f h m i j Z\ e\_g b y f m g b p b i Z e v g u o j Z c h g h\ l  
G h\ ] h j h^k d h c h[e Z k l b h l^\_e v g u f b J h k m^Z j k l\ \_g g u f  
h[e Z k l b h[j Z a h\ Z g b y h i\_d b b i h i\_q b l\_e v k l\ Z e b g i h c h  
i h^\_j`^d k a h\ ] h j h^k d b\_ \ ^h f h k l b h l <<

B k q\_j i u\ Z x s b c i\_j\_q\_g v ^h d m f\_g l h\ g\_h  
k h h l\ \_l k l\ b b k g h j f Z l b\ g u f b i j Z\ h\ u f b Z d l Z f b ^e y i j  
J h k m^Z j k l\ \_g g h c m k e m] b b m k e m] d h l h j u\_y\ e y x l k  
h[y a Z k g a u f b ^e y i j\_ ^h k l Z\ e\_g b y J h k m^Z j k l\ \_g g h  
i h^e\_`Z s b o i j\_ ^k l Z\ e\_g b x a Z y\ b l\_e\_f k i h k h[u b o i  
q b k e\_ \ w e\_d l j h g g h c n h j f\_ i k j l y^h e\_d g b o y i j\_>  
e y i j\_ ^h k l Z\ e\_g b y m k e m] b a Z y\ b h j e\ g^h e  
h i\_d b b i h i\_q b l\_\Phi q g l h Z e b[h k b k i h e v a h\ Z g b\_f m  
J h k m^Z j k l\ \_g g h c b g n h j f Z p b h g g h c k b k l\_f u ??  
J h k m^Z j k l\ \_g g u o b f m g b p b i Z e v g u o b r e k j e n\ b h g n Z e g\ g b b  
i h j l Z e Z J h k m^Z j k l\ \_g g u o b f m g b p b i Z e v g u o b e r k e  
h n b p b Z e v g h] h k Z c l Z i\_h j b Z g h l\_q b l\_e v k l\ Z \ b g n h j f Z  
l\_e\_d h f f m g b d Z p b h g g h c k\_b b[h B g j h k j g^k l\ h f i h q l h\ h c  
e b[h q\_j\_a ^h e`g h k l g u o e b p f g h] h n m g d p b h g Z e v g u o  
J h k m^Z j k l\ \_g g u o b e f v g g b p b m k e m] k d h l h j u f h b i\_m b h p] Z

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    aZy\`e\_`^ZgbgZ \ujZab\r\_jh `\_eZgb\_ kIZiv  
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beb kijZ\dZ k f\_klZ jZ[hlu kmijm]Z kmijm]b ebpZ  
kIZiv hi\_dmghf k mdZaZgb\_f ^he`ghklb b jZaf\_jZ k  
aZ ihke\_`^gb\_ f\_kyp\_\` b belb i\`b\`gl\`h\`c\`^`^hZdknsb\_cg ^h  
kmijm]Z kmijm]b >hdmf\_gl ijbgbfZ\_lky h]Zghf hi\_`  
l\_q\_gb\_ ]h^Z kh ^gy \_]h \u^Zqb

    \uibkdZ ba ^hfh\`hc ihd\`Zj\`bj\`ghc dgb]b k f\_kl  
bgc ^hdmf\_gl ih^l\`\_j`^Zxsbs\_ ijZ\`h ihevah\`Z\`gby  
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gZf\_j\_\`Zxsbsoky mkugh\`b\`v m^h\`q\_j\`b\`v \ayl v ih\`^ hi\_`  
ijb\_fgmx beb iZljh\`gZl\`gm\`x \`k\`bf\`t\`k\`b\`Z\`rboky [\_  
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Z^fbgbkljZl\`ghf\`m\`gjl\`m\`hdmf\_gl ijbgbfZ\_lky ih\`d\`Z\`g\`b  
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^\_l\_c ^h\`klb]rbe\_lg\_`h \`hajZk\`Z ijh\`b\`Zxsbo kh\`  
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    dhiby k\`b^\_l\_evkl\`Z beb bgh]h ^hdmf\_gl\`Z h ijd  
ebpZ `\_eZxs\_`h ijbgylv gZ \hkibkZ\`g\`b[ g\`d\`h\`k\`k\`Z\`r\`v\`]  
[\_a ihi\_q\_gby jh^b\`l\`e\_c \`ihjy^d\_ mkIZgh\`e\_gghf  
K\_f\_cgh]h dh^\_dkZ Jhkkbckdhc N\_`^jZpbb djhf\_`  
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    dhiby i\_gkbh\`ggh]h m^h\`k\`l\`h\`y\`e\`b\`g\`p\`b\`y\`h\`k\`g\`h\`g\`u\`f\`b\`k\`h  
^hoh^h\`h\`d\`h\`y\`e\`y\`x\`l\`k\`y\`k\`l\`j\`Z\`o\`h\`h\`\_ h[\_k\`i\`q\`g\`b\_`i\`h

i\_gkbhggf fm kijZoh\Zgbx beb bgu\_ i\_ki<sup>b</sup>h<sup>a</sup>g<sup>c</sup>y<sup>d</sup>e\_\gub e  
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i j b g Z e b q b b i j ^ k i Z \ e \_ g g u o ] j Z ^ Z g b g n f f \_ g h j b ] b g Z e b h  
k e \_ ^ m x s b o ^ h d m f \_ g l h \  
k \ b ^ \_ l \_ e v k l \ h h [ j Z d \_ \_ k e b ] j Z ^ Z g b g \ u j Z a b \  
h i \_ d m g h f k h k l h b l \ [ j Z d \_  
k \ b ^ \_ l \_ e v k l \ h b e b h g n f h g l h o h ^ \_ g b b i h ^ ] h l h \ d b  
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i h i \_ q \_ g b y j h ^ b l \_ e \_ c \ i h j y ^ d \_ m k l Z g h \ e \_ g g h f i m  
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l\_gkbhggf]h nhg^Z Jhkkbckdhc N^\_jZpjb\ZgZbe  
hkms\_kl\eyxs\_]h i\_gkbhggf h[\_ki\_q\_gb\_ ^ey e b p  
^hoh^h\ dhlhuo y\eyxly kijZoh\h\_ h[\_ki\_q\_gb\_  
i\_gkbhggf fm kijZoh\Zgbx beb bgu\_ i\_gkbhggf \uie  
A Z y \ b l \_ e v \ i j Z \ \_ i j ^ k i Z \ b l v d h i b b m d Z a Z g  
k Z f k l h y l \_ e v g h

< kemqZ\_ e b q g h ] h h [ j Z u s h i g b l y \ b h i j \ Z g q b l \_ e v  
] j Z ^ Z g b g i j b i h ^ Z q \_ a Z y \ e \_ g b y ^ h e ^ \_ g i j ^ t y \ b l v  
^ h d m f \_ g l m ^ h k l h \ j y x s b c \_ ] h e b q g h k l v

H l \ \_ k l \ \_ g g h k l v a Z ^ h k l h \ j g h k l v b i h e g h l m  
k \ \_ ^ g b b ^ h d m f \_ g l h \ h a e Z ] Z \ \_ k y g Z a Z y \ b l \_ e y  
B k q \_ j i u \ Z x s b c i \_ j \_ q \_ g v ^ h g d m f o g k l b f u o ^ e  
i j ^ h k l Z \ e \_ g b y j h k m ^ Z j k l \ \_ g g h c m k e m ] b d h l h j u  
j Z k i h j y ^ \_ g b b j h k m ^ Z j k l \ \_ g g u o h j ] Z g h \ h j ] Z g h  
k Z f h m i j Z \ e \_ g b y b b g u o h j ] Z g h \ m q j Z k l h k n l Z s b o g b  
j h k m ^ Z j k l \ \_ g g h c m k e m ] b b d h l h j u \_ a Z y \ b l \_ e v \ i j Z  
I Z d \_ k i h k h [ u b o i h e m q \_ g b y a Z y \ b l \_ e y f b d l \ y h l g h f h q b  
n h j f \_ i h j y ^ h d b k l Z \ e ^ g b y

H j ] Z g h i \_ d b b i h i \_ q b l \_ e v k l \ Z la Z i j k h b \ Z x l k l \ m x s b  
m i h e g h f h q \_ g g u o Z g Z b j ] i h k j ^ k l \ h f f \_ \ ^ h f k l \  
b g n h j f Z p b h g g h ] h \ a Z b f h ^ \_ c k l \ b y k e ^ \_ m x s b \_ ^ h d m f \_ g

k i j Z \ d Z h j ] Z g h \ g m l j \_ o g Z b o q b b e h l k m l k l \ b b k m ^  
b e b n Z d l Z m ] h e h \ g h ] h i j \_ k e ^ h \ Z g b y e b [ h h i j \_  
i j \_ k e ^ h \ Z g b y h j f \_ k h ] e Z k e g h \_ i g b x \ d Z ^ f b g b k l j Z l b  
j \_ l Z \_ g l m > h d m f \_ g l i j b g b f Z \ \_ k y h j ] Z g h f h i \_ d b b i h \_  
l \_ q \_ g b \_ j h ^ Z k h ^ g y \_ ] h \ u ^ Z q b

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^ey ebp hkgh\guf bklhqqbdhf ^hoh^h\ dhjhjou  
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A Z y \b l \_ ev \i j Z \\_ i j \_ ^k l Z \b l v mdZaZgg u\_ ^hdmf\_g  
MdZaZgb\_ gZ aZij\_l aZy[\b l Z le/y h l  
G\_ ^himkdZ\_l ky ij\_[h\Zl v h l aZy\b l \_ ey  
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\ lh\ q\k\ e\_ k b\k\i\h\evah\Zgb\_f b\g\h\h\j\h\Z\p\h\g\g\ u  
l\og\h\eh]bc  
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M d Z a Z g g u \_ a Z i j h k u b \_ h l \ \_ l u g Z g b o g Z i  
w e \_ d l j h g g h ] h ^ h d m f \_ g k l \ \_ h e v & h \ Z g b \_ f \_ ^ b g h c k  
f \_ ` \ ^ h f k l \ \_ g g h ] h w e \_ d l j h g g h ] h \ a Z b f h ^ c k l \ b y Z \  
k h h l \ \_ l k l \ m x s \_ h m i h e g f h q \_ g g h ] h h j Z g Z ^ h k l m i Z  
f \_ ` \ ^ h f k l \ \_ g g h ] h w e \_ d l j h g g h ] h \ a Z n b h f j f ^ e k l d b y \_ g l Z  
[ m f Z ^ g h f g h k b l \_ f e x k \_ g k b h \_ f g h f a Z d h g h ^ Z l \_ e v k l \ Z  
N \_ ^ \_ j Z p b b h a Z s b l \_ i \_ j k h g Z e v g u o ^ Z g g u o  
J \_ a m e v I Z l h f Z ^ f b g b k l j Z l b \ g h c i j h p \_ ^ m j u y  
h j Z g Z f b h i \_ d b b i h i \_ q b l \_ e v k l \ Z ^ h d m f \_ g l h \  
i j \_ ^ h k l Z \ e \_ g b y J h k m ^ Z j k l \ \_ g g h f b i h & g h ] h i Z  
^ h d m f \_ g l h \ a Z y \ b l \_ e y  
< j \_ f y \ u i h e g \_ g b y Z ^ f b g b k l j Z l b \ g h q Z [ h q b & m ^ j g u y  
H [ k e \_ ^ h \ Z g b \_ m k e h \ b c ` b a g b a Z y \ b l \_ e y  
H k g h \ Z g b \_ f ^ e y g Z q Z e Z Z ^ f b g b k l j Z l b \ g h c i j  
a Z j \_ ] b k l j b j h \ Z g g h \_ a Z y \ e \_ g b \_ f \_ b l d h f i e \_ d l ^ h d m  
K i \_ p b Z e b k H \ h m j l Z g b \_ b i h i \_ q b l \_ e v k l \ Z h l \ \_ l k l  
i j \_ ^ h k l Z \ e \_ g b \_ J h k m ^ Z j k l \ \_ g g h c m k e m ] b  
i j h b a \ h ^ b l h [ k e \_ ^ h \ Z g b \_ m k e h \ b g \_ b h a g & g a Z y \ b l \_ e y  
h i j \_ ^ e y \_ l h l k m i k l \ b \_ m k l Z g h \ e \_ g g u o = j Z ^ Z  
J h k k b c k d h c p n b \_ b ^ b Z K \_ f \_ c g u f d h ^ d k h f J h k k b c k d h  
h [ k l h y l \_ e v k l \ i j \_ i y l k l \ m x s b q j Z a g Z b g Z d m g h f  
h p \_ g b \ Z \_ l ` b & b l s h g b \_ m k e h \ b y e b q g u \_ d Z q \_ k l \  
a Z y \ b l \_ e y k i h k h [ g h k l v \_ ] h d \ h k i b l Z g b x j \_ [ \_ g d Z h  
f \_ ` ^ m q e \_ g Z f b & Z f y \ b l \_ e y  
< l \_ q \_ g b \_ ^ g \_ c k h ^ g y i j h \ ^ \_ g b y h [ k e \_ ^ h \ Z  
a Z y \ b l \_ e y h n h j f e y \_ l \ & d h [ k i e y j Z b Z g b y m k e h \ b c  
] j Z ^ Z g b g Z \ u j Z a b \ r \_ ] h k l Z l e Z g h b \_ d m g h f b e b i h i \_  
g \_ k h \ \_ j r \_ g g h e \_ l g \_ ] h ] j Z [ h Z g i b & g y l v ^ h k l Z \ r b o k y [  
i h i \_ q \_ g b y j h ^ b l \_ e \_ c g Z k h f k i b l Z g b \_ \ b g u o m k l Z g  
k \_ f \_ c g u f a Z d h g h ^ Z l J h e k k d & k f d h c N \_ ^ \_ j Z p b b Z e h j f Z d l  
h [ k e \_ ^ h \ Z i g b y h j f \_ k h ] e Z k g h i j b e h ^ d g Z & f b g b k l j Z l b \ g h  
j \_ Z g l m i h ^ i b k u \ Z \_ l b m l \ m j m Z \ h ^ b l y \_ e h j ] Z g Z h i \_ d b  
i h i \_ q b l \_ e v k l \ Z  
< l \_ q \_ g b \_ ^ g \_ c k h ^ g y m l \ h & k e \_ g b y Z h Z b l Z  
w d a \_ f i e y j g Z i j Z \ e y \_ l \ j m q Z \_ l ] j Z ^ Z g b g m \ u j Z a b  
h i \_ d m g h f  
J \_ a m e v I Z l h f Z ^ f b g b k l j Z l b \ g h c i j h & d t m j u  
h [ k e \_ ^ h \ Z g b y  
K j h \ u i h e g \_ g b y Z ^ f b g b k l j Z l b \ g h c i j h p \_ ^ m j u ^ g \_  
l j b g y l b \_ j \_ r \_ g b y h \ u ^ Z q \_ a Z d e x q \_ g b y h \ h  
g \_ \ h a f h ^ g h k l b [ u l v h i \_ d m g h f i h i \_ q b l \_ e \_ f i j b \_ f g u f  
H k g h \ Z g b \_ f ^ e y g Z q Z e Z Z ^ f b g b k l j Z l b \ g h c

aZj\_]bkIjbjh\Zgge\_gba\_Z b dhfie\_dI ^hdmf\_gIh\ \ ih  
h[ke\_`^h\Zgby mkeh\bc `bagb ]jZ`^ZgbgZ  
Ki\_pbZebkl hj]ZgZ hi\_db b ihi\_qbl\_evkI\Z  
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ih f\_klm `bl\_evkI\Z ]jZ\h\`d\`b\`g\`k\`b jjZ`^ZgbgZ  
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ih^ibkZg\`b\`q\`g\`h eb[h ihkj\_`^kI\`hf ihq\`h\`h\`c k\`y\`ab  
^he`ghklguop e\`b\`g\`h\`h\`n\`m\`g\`d\`p\`b\`h\`g\`Z\`e\`v\`g\`u\`o p\`g\`l\`j\`h\` i\`j  
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h[\`Zeh\Zgby aZdexq\_gby b ZdI\`Z h[ke\_g^hd Z^ghbdymfD\`b\`l\`b  
ojZgylky \ h\`j\`i\`Z\`g\`b\`o\`b\`i\`h\`i\`q\`b\`l\`e\`v\`k\`l\`Z  
J\_am\`e\`v\`l\`Z\`h\`f Z^fbgbkljZl\`b\`g\`h\`c i\`j\`h\`p\`\_`^m\`j\`u  
aZdexq\_gby  
Kjh\`d\`u\`i\`h\`e\`g\`g\`b\`y\` Z\`l\`f\`b\`g\`b\`h\`k\`l\`i\`j\`h\`p\`\_`^m\`j\`g\`\_`^c  
Ih\`j\`y\`^h\`d\` b nh\`j\`f\`u\` d\`h\`g\`l\`j\`h\`e\`y\` aZ i\`j\`\_`^h\`k\`  
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Ih\`j\`y\`^h\`d\` h\`k\`m\`s\`k\`l\`e\`g\`b\`y\` d\`h\`g\`l\`j\`h\`e\`y\` aZ k  
ij\_`^h\`k\`I\`Z\`e\`f\`b\`^h\`e\`g\`h\`k\`l\`g\`u\`f\`b\` e\`b\`p\`Z\`f\`b\` h\`h\`j\`Z\`g\`d\`b\` b  
ihi\_qbl\_evkI\Z i\`e\`h\`\_`g\`b\`c\` j\`\_`e\`Z\`f\`g\`l\`Z\` b\`g\`b\`g\`u\`i\`q\`Z\`g\`h\`j\`f\`u\`Z\`l\`b\`  
ZdI\`h\` m\`k\`I\`Z\`g\`Z\`e\`b\`Z\`x\`s\`b\` o\` l\`j\`[h\`Z\`g\`b\`y\` d\` i\`j\`\_`^h\`k\`m^Zjkl\`gghc mkem]b  
Z I\`Z\`d\`\_ i\`j\`b\`g\`y\`l\`b\`f\` b\`f\`b\` j\`\_`r\`  
Dh\`g\`l\`j\`h\`e\`v\` aZ i\`j\`\_`^h\`k\`I\`Z\`e\`g\`b\`f\` m\`k\`I\`Z\`g\`h\`e\`g\`g\`u\`o  
j\`\_`e\`Z\`f\`g\`l\`h\`f\` Z^fbgbkljZl\`b\`g\`u\`o\` i\`j\`h\`p\`\_`^m\`j\` h\`k\`m\`s\`k\`l\`e\`y\`  
e\`b\`p\`Z\`f\`b\` ^\`Z\`i\`Z\`j\`g\`l\`Z\` h\`l\`\_`k\`l\`\_`g\`g\`u\`f\`b\` aZ h\`j\`Z\`g\`b\`a\`Z\`p\`b\`x\`  
ij\_`^h\`k\`I\`Z\`e\`g\`b\`x\` ]hkm^Zjkl\`gghc mkem]b  
L\_dmsbc dh\`g\`l\`j\`h\`e\`v\` aZ i\`e\`g\`h\`l\`h\`c\` b d\`Z\`q\`k\`l\`h\`f\`  
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ihi\_qbl\_evkI\Z m\`q\`Z\`k\`l\`m\`x\`s\`b\`f\`b\`b\`i\`j\`h\`k\`m\`k\`A\`Z\`j\`l\`e\`l\`\_`g\`g\`h\`c\` m\`  
i\`e\`h\`\_`g\`b\`c\` Z^fbgbkljZl\`b\`g\`h\`f\` j\`\_`e\`Z\`f\`g\`l\`Z\` b\`b\`g\`u\`o\` g\`h\`  
ZdI\`h\` m\`k\`I\`Z\`g\`Z\`e\`b\`Z\`x\`s\`b\` o\` l\`j\`[h\`Z\`g\`b\`y\` d\` i\`j\`\_`^h\`k\`I\`Z\`e\`g\`  
mkem]b h\`k\`m\`s\`k\`l\`e\`y\`l\`k\`y\`f\`b\`j\`m\`j\`Z\`h\`r\`b\`d\`b\`e\`b\` ihi\_qbl\_evkI\`  
Ih\`j\`y\`^h\`d\` b i\`j\`b\`k\`l\`V\`b\`q\`g\`h\`m\`s\`k\`l\`e\`g\`b\`y\` i\`e\`Z\`g\`h\`  
\`g\`i\`e\`Z\`g\`h\`u\`o\` i\`j\`h\`\_`j\`h\`d\` i\`e\`g\`h\`l\`u\` b d\`Z\`q\`k\`l\`Z\` i\`j\`\_`  
]hkm^Zjkl\`gghc mkem]b \`I\`h\`f\` q\`b\`k\`e\` i\`h\`j\`y\`^h\`d\` b n\`  
i\`e\`g\`h\`l\`h\`c\` b d\`Z\`q\`k\`l\`h\`f\` i\`j\`\_`^h\`k\`I\`Z\`e\`g\`b\`y\` ]hkm^Zjkl\`gg

Dhgljhev hkms\_kl\ey\_iky iml\_f ijhgufbg by pZfb^  
^\_izjIZf\_gIZ hI\IkI\ggufb az hj]ZgbaZpbx  
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jhkm^Zjkl\gghc mkem]b kh[ex^gby b ij^hkl  
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Jhkkbckdhc N^jZpbb \uy\ey\_gby b h[ki\_q\_gby  
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hkgh\Zgb bb Jh^h\uo ieZgh\ jZ[hl u ^\_izjIZf\_gIZ b \g  
lh j\_a mevIZf ijh\^gguo qjZ\y\by\et\_kedo gZjmr  
^\_ckl\byfb [\_a^\_ckl\b\_f ki\_phb\Z\h\h\h b hij]Zgq bl\_evk  
mqZkl\mxsbo \ ij^hklZ\ey\_gbb jhkm^Zjkl\gghc mk  
i\jbe\_dZx\ky d hI\IkI\gghklb \ ihjy^d\_  
aZd\hgh^ZI\_evkI\hf Jhkkbckdhc N^jZpbb  
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aZ h[ki\_q\_gb\_ iheglu b dZq\_kl\Z ij^hklZ\ey\_gby ]  
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aZd\hgh^ZI\_evguo b bguo ghjfZIb\guo ijZ\h\uo  
N^jZpbb  
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`Zeh[ ih nZdIZf gZjmr\_gby b^heb^pgZfkl gkfjf] ZgZ hi\_  
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^\_ckl\bc [\_a^\_ckl\by h]Zgh\ hi\_db b ihi\_qbl\_e  
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Bgnhjb^p^ey aZy\bl\_ey h\_]hZ liyZ\Zeih[m g  
j\_r\_gb\_ b beb ^\_ckl\b\_ [\_a^h\bk\ddb\_b h]Zgqbl\_evk  
b beb \_ ]h ^he`ghklguo ebp ij b ij\_ ^hkiZ\e\_gbb  
mkem]b  
A ZybI\_eb \ijZ\ ih^ZIv `Zeh[m gZ j\_r\_gb\_ b  
[\_a^\_ckl\b\_h\hj]Z\phi b ihi\_qbl\_evkI\Z b beb \_ ]h ^h  
ij b ij\_ ^hkiZ\e\_gbb ]hkm^Zjkl\gghc mkem]b ^Ze\_\_  
ij\_ ^f\_I `Zeh[u  
ij\_ ^f\_lhf `Zeh[u y\eyxIky j\_r\_gb\_y ba^\_ckk\bb  
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hldza \ ij\_ ^hkiZ\e\_gb g\hkm^Zekm\j\_b \_ keb hkgh\Z  
g\_ ij\_ ^mkfhlij\_gu Z^fbgbklijZlb\guf j\_]eZf\_glh  
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ieZiu  
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hi\_db b ihi\_qbl\_evkI\Z \ b\hkm^Z\gghc h\qZlh d b hr  
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A Zy\bl\_eb fh]ml h[`Zeh\ZIv ^\_ckl\by [\_a^\_ck  
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jmdh\h^p^h\Zg\hi\_db b ihi\_qbl\_evkI\Z f\_gl  
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IZd` \_ ij\_ ^kiZ\ey\_Iky ^hdmf\_gl ih^i\j`^Zxsbc  
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i h^I\j`^Zxs\_]h i heghfhqby gZ hkms\_kl\ey\_gb\_ ^  
aZy\ey fh`\_l [ulv ij\_ ^k\Z\ej\_\g\Z\hklv hnhjfe\_gg  
kh\l\kl\bb k aZdhgh^Zl\_evkN\h\J\Z\bb\ck\k\c nbab  
epp

Ijb\_f `Zeh[ \g\g\h\k\cv f\h\jf\_ hkms\_kl\ey\_lky  
hi\_db b ihi\_qbl\_evk\Z \f\_kl\_ ij\_ ^h\k\Z\ey\_gby ]hkm  
f\_kl\_ ]^\_ aZy\bl\_ev ih^Z\Ze aZijhk gZ ihemq\_gb\_  
gZjmr\_gb\_ ihjy^dZ dhlhjh c h[\`Zem\_lky^\_ e\Z\y\bl\_fe  
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aZ\h\gh^Zl\_evk\hf Jhkkb\ck\dhc N\_ ^\_jZp\bb  
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©Bgl\_jg\_J^a]bhgZevghc ]h\k\g\h\Zj\k\lb\g\h\j\Zpbh\g\c k\l  
©Ihj\Z\ Ze ]hkm^Zjk\l\_gguo b fmgbpb\Zevguo m\kem]  
h[eZk\lba^

Ijb ih^Zq\_ `Zeh[u \ we\_dljhgghf \b^\_ ^hdmf\_gi  
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nhjf\_ we\_dljhgguo ^hdmf\_gi\h ih^ibkZgg\c we\_dlj  
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^hdmf\_gi m^h\k\h\jyx\bc ebqgh\k\l v aZy\bl\_ey g\_ l  
@Zeh[Z fh`\_l [ulv ih^ZgZ aZy\bl\_e\_f q  
ihk\l\mie\_gbb `Zeh[u FNP h[\_ki\_qb\Z\_l u\_hii\q\h\Z  
ihi\_qbl\_evk\Z \ ihjy^d\_ b k\h\h\h\j\Z\k\l\Z\g\h\Z  
\aZbfh^\_ck\l\bb f\_ ^m FNP \b\h\j\Z\g\Z\bi\_qbl\_evk\Z  
iha^g\_ ke\_ ^mxs\_]h jZ[hq\_]h ^gy kh ^gy ihk\l\mie\_g  
@Zeh[Z gZ gZjmr\_gb\_ ihjy^dZ ij\_ ^h\k\Z\ey\_gby ]h  
FNP jZkkf\Z\l\j\Z\k\y\h\j\Z\g\h\j\Z\k\j\Z\p\h  
Ijb \h\h\h\j\Z\g\h\j\Z\k\j\Z\p\h b ihi\_qbl\_evk\Z  
`Zeh[u \ h\j\Z\g\h\j\Z\k\j\Z\p\h  
@Zeh[Z ^he`gZ kh^\_j`Z\l  
gZbf\_gh\Zgb\_ hj]Zgh\ hi\_db b ihi\_qbl\_evk\Z  
ij\_ ^h\k\Z\ey\h\k\Z\g\h\j\Z\k\l\g\m\h\k\Z\g\h\j\Z\k\l\g\h\j\Z  
hi\_db b ihi\_qbl\_evk\Z e\h\h^h\k\Z\g\h\j\Z\k\l\g\m\h\k\Z\g\h\j\Z  
m\kem]m j\_r\_gby b ^\_ck\l\by [\_a^\_ck\l\h dh\h\j\Z\g\h\j\Z  
nZfb\h\j\Z\g\h\j\Z\k\j\Z\p\h bfy h\l\q\k\l\h ihke^g\_ ijb gZebq\h\j\Z  
`bl\_evk\Z aZy\bl\_ey Z IZd`\_ ghf\_j ghf\_j Z Z^h\h\j\Z  
Z^j\_kZ we\_dljhgghc ihqlu ijb gZebq\h\j\Z b ihqlh\h\j\Z  
^he`\_g [ulv gZijZ\ey\_g h\l\l aZy\bl\_ex  
k\l^\_gby h[ h[\`Zem\_fuo j\_r\_gby o b ^\_ck\l\h\k\j\Z  
hi\_db b ihi\_qbl\_eij\k\h\Z\k\l\Z\g\h\j\Z\k\l\g\m\h\k\Z\g\h\j\Z\k\l\g\h\j\Z

^he`ghk]hghebpZ h)]Zhgi\_db b ihi\_qbl\_i¢v¢k¢k¢Z\b¢xs  
jhkm^Zjkl\ \_ggmx mkem]m  
^h\h^u gZ hkgh\Zgbb dh\hjuo aZy\bl\_ev gb\_ kh  
^ckl\b\_f [\_a^ckl\by h]Zgh\ hi\_d\j\_b^hhkI\_Zqle\_yesv k  
jhkm^Zjkl\ \_ggmx mkem]m phze`gj]Zhgi\_Zg\h\ebhi\_db  
ihi\_qbl\_evkl\hkiZ\b¢x\k^Zjkl\ \_ggmx mkem]m  
fh]ml [ulv ij\_\kI Z\ e\_gu ^hdmf\_glu ijb gZebqbb  
^h\h^u aZy\bl\_ey eb[h bo dhibb  
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Kjhdb jZkkfhlj\_gby `Zeh[u  
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^g\_c kh ^gy \_\_ j\_]bkijZpbb  
< kemqZ\_ h[`Zeh\Zgb\yhh\l d\Z al\ ihji]Zgb\l\_evk  
^he`ghklgh]h eb\h\h\jd\Zgb ihi\_qbl\_evkl\Z \ ijb\_f\_ ^h  
aZy\bl\_ey eb[h \ bkijZ\ e\_gbb ^hims\_gguo hi\_qZlhd  
h[`Zeh\Zgby gZjmr\_gby mklZgh\ e\_ggh]h kjh\Z lZ  
l\_q\_gb\_ iylb jZ[hqbo ^g\_c kh ^gy \_\_ j\_]bkijZpbb  
l\_j\_q\_gv hkg\h\Zgb\biqbhkiZgh\ e\_gby jZkkfhl  
`Zeh[u \ kemqZ\_ \_keb \hafh`ghklv ijbhkiZgh\ e\_g  
aZdhgh^Zl\_evkl\hf Jhkkbckdhc N\_\Zpbb  
Hggh\Zgby ^ey ijbhkiZgh\ e\_gby jZkkfhlj\_gby `Zeh  
J\_amevlZl jZkkfhlj\_gby `Zeh[u  
lh j\_amey\Zk\Zfhlj\_gby `Zeh[u hhj\Zg b  
ihi\_qbl\_evkl\Z ZjZfij\g\g bfx\ h^g h ba ke\_ ^mxsbo j\_r\_g  
m^h\ e\_l\h\j\y Zeh[m \ lh\ hf qbke\_ \ nhjf\_ hlf\_g  
j\_r\_gby bkijZ\ e\_gby ^hims\_gguo hi\_qZlhd b hr  
j\_amevlZl ij\_\hkiZ\ e\_kg\by\g\h\k\m\Z\em]b ^hdmf\_glZ  
aZy\bl\_ex ^\_g\_\guo kj\_\k\ \ abfZgb\_ dh\hjuo  
Z^fbgbkljZl\guf j\_]e\Zf\Z\ld\h\f\_ \ bguo nhjfzo  
hldZau\Zxm^h\ e\_l\hj\_gbb `Zeh[u  
MdZaZggh\_ j\j\rb\g\bfZ\_lky \ nhjf\_ Zd\Zi\_h\pZg\h  
ihi\_qbl\_kd\Z  
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^iZjIZf\g\g\bf\Z\ b\k\q\_jiu\Zxsb\_ f\_ju ih mkljZg\_gbx  
gZjmr\_gbc \ lh\ hf qbke\_ ih \u^Zq\_ aZy\bl\_ex j\_am  
mkem]b g\_ iha^g\_ jZ[hqbo ^gj\_\sigma\_k\h\y\g\y\k\g\y\g\h  
mklZgh\ e\ gh aZdhgh^Zl\_evkl\hf Jhkkbckdhc N\_\Z  
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ij\_\h\fl\_ b ih l\_f \ h\k\g\h\Zg\by\Z  
ih^ZqZ `Zeh[u ebphf iheghfqby dh\hjh]h g\_  
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gZebqby j\_r\_gby ih `Zeh[\_ ijbgylh]h jZg\_ \_ \ aZy\bl\_ey b ih lhfm`\_ ij\_ ^f\_lm`Zeh[u < kemqZ\_ mklZgh\ e\_gby \ oh^\_ beb ih j\_a `Zeh[u ijbagZdh\ khkIZ\Z Z^fbgbkljZl\gh]h ijZ` ij\_klmie\_gbyu\hj]Zd\ b ihi\_qbl\_eyk\Z fg\_gaZf\_ ^ebl\_ev gZijZ\elybf\_xsb\_ky fZl\_jbZe u \ hj]Zgu ijhdmjZlmu Hj]\Z\ i\_db b ihi\_qbl\_eyk\Z f\_gl \ijZ\ hklZ `Zeh[m \_a h\I\IZ \ ke\_ ^mxsbo kemqZyo gZebqb\_ \ `Zeh[\_ g\_p\_gamjguo eb[h hkdhj[bl\_ev `bagb a^hjh\vx b bfms\_kl\m ^he`ghkIgh]h ebpZ Z l hkm\k\l\b\_h\g\k\l\ b ijhqblZlve\Zd\Zk\l v l\_dk\Z `Z nZfbebx bfy hlq\_kl\h ijb gZebqbb b beb ihqlh mdZaZggu\_ \ `Zeh[\_ ihjy^hd bgnhjfjh\Zgby aZy\bl\_ey h jZkkfh\l\_gby `Zeh[u Fh\l\bjh\Zgguc h\I\I h \Z\k\k\fr\h\j\Z\Z\Z\o `Zeh[gZijZ\ey\lky aZy\bl\_ex g\_ iha^g\_ ^g\_y ijk\eg\y\l\mx s\_ j\_r\_gby \ibkvf\_gghc nhjf\_ b ih `eZgbx aZy\bl\_ey < h\I\I h j\_am\ev\Zlzo jZkkfh\l\_gby `Zeh[u gZbf\_gh\Zgb\_ hj]Zgh\ hi\l\k\ev\l\Z\j\i\^f\k\l\Z\Z\Z\o ]hkm^Zjk\l\g\gm\ x mkem] \Z\k\k\fr\h\j\Z\Z\Z\o `ghk\l v nZfbe hlq\_kl\h ijb gZebqbb ^he`ghkIgh]h ebpZ ijbgy\r\_] ghf\_j ^ZIZ f\_klh ijbgy\l by j\_r\_gby \dexqZ^he`ghkIghf ebp\_ j\_r\_gbc\k\l\Z\Z\Z\o [^a^\_ck\l\b\_ d\h[\`Zem\lky nZfbeby bfy hlq\_kl\h ijb gZebqbb beb gZbf\_g hkg\Zgby ^ey ijbgy\l by j\_r\_gby ih `Zeh[\_ ijbgy\l ih `Zeh[\_ j\_r\_gb\_ \ kemqZ\_ keb `Zeh[Z ijbagZg\Z\h\l\k\l\Z\Z\Z\o \uy\le\_gguom\Z\j\bc \ Ihf qbke\_ kjhd ij\_ ^h\k\l\Z\Z\Z\o ]hkm^Zjk\l\g\ghc mkem]b k\l\^gby h ihjy^d\_ h[\`Zeh\Zgby ijbgy\l h]h ih `Zeh[ ihjy^hd h[\`Zeh\Zgby j\_r\_gby ih `Zeh[\_ AZy\bl\_ev \ijZ\I h[\`Zeh\Zl v j\_r\_gby ^\_ck\l\h\y [ hi\_db \b\_i\h\l\evk\l\Z \_]h ^he`ghkIguo ebp \Z^fbgbk km^\_[ghf ihjy^d\_ \ kh\l\I\k\l\bb k aZdhgh^Zl\_e N\_ ^\_jZpbb IjZ\h aZy\bl\_ey gZ ihemq\_gb\_ bgnhjfZpbb g\_h[oh^bfuo ^ey h[hkg\Zgby b jZkkfh\l\_gby `Zeh[u AZy\bl\_ey\lb ijZ\h gZ ihemq\_gb\_ bgnhjfZpbb g\_h[oh^bfuo ^ey h[hkg\Zgby b jZkkfh\l\_gby `Zeh[u Kihkh[u bgnhjfjh\Zgby aZy\bl\_e\_c hbihjy jZkkfh\l\_gby `Zeh[u Hj]Zugh\i\_db b ihi\_qbl\_eyk\Z\l h[\_ki\_qb\Z

b g n h j f b j h \ Z g b \_ a Z y \ b l \_ e d c h [ ` Z h e j y \ Z g b y j \_ r \_ g l  
^ \_ c k l \ b c [ \_ a ^ \_ c k l \ h b \ y i \_ h d j \ Z b \ i h i \_ q b l \_ e v k l \ Z \_ ] h ^ h  
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h i \_ d b b i h i \_ q b l e b \ h k l \ ^ Z i Z j \ Z Z j \_ ] b h g Z e v g h c j h k m ^ Z j k  
b g n h j f Z p b h g g h c k b k l \_ f \_ @ l h j l Z e j h k m ^ Z j k l \ \_ g g u o b  
n m g d p b c G h \ ] h j h ^ k d h c h [ e Z k l b ^ a b n \_ ^ \_ j Z e v g h  
b g n h j f Z p b h g g h c k b k l \_ f \_ @ ? ^ b g u c i h j l Z e j h k m  
f m g b p b i Z e v g u o m k e m ] n m g d p b c ^ a  
d h g k m e v l b j h \ Z g b \_ a Z y \ b l \_ e \_ c h i h j y ^ d \_ h [ ` Z e  
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e b p \ l h f q b k e \_ i h l \_ e \_ n h g m w e \_ d l j h g g h c i h q l \_ i j  
a Z d e x q \_ g b \_ k h ] e Z r \_ g b c h \ a Z b f h ^ \_ c k l \ b \_ b g b \ y q z  
f g h ] h n m g d p b h g Z e v g u f b p \_ g l j Z f b i j b \_ f Z ` Z e h [ b \  
j \_ a m e v l Z l h \ j Z k k f h l j \_ g b y ` Z e h [

I j b e h ` \_ g b  
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B g n h j f Z p b y h f \_ k l Z o g Z o h ^ \_ g b y j j Z n b d Z o j Z [ h l u k i j Z \ l  
 Z ^ j \_ k Z o w e \_ d l j h g g h c i h q l u h j Z g h \ h i \_ d b b i h i \_ q b l e v k l \ l  
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1	G Z b f _ g h \ h j ] Z g Z h i _ d b i h i _ q b l _ e v k l \ Z	I h q l l u c Z ^ b	= j Z n l j Z [ h l u	: ^ j _ w e _ d l j h g g h c i h q l u	L _ e _
	D h f b l _ l h [ j Z a : ^ f b g b k l j Z p b b i ; Z l _ p d b c ; Z l _ p d h ] h f m g b p b i Z e v g h ] h j Z c h g Z	I h g _ ^ _ e \ m e y l g b p Z Z	I h g _ ^ _ e \ m e y l g b p Z	J N R P R P D L O U X	
	D h f b l h [ j Z a h \ z b f h e h ^ _ g h c ] ; h j h \ b q b i h e b l b d b D h f k h f h e v k d Z y : ^ f b g b k l j Z p b b ; h j h \ b q k d h ] h f m g b p b i Z e v g h ] h j Z c h g Z	I h g _ ^ _ e \ m e y l g b p Z	I j b _ f j j Z ^ Z g < l h j g b d	E R U H O \ D Q G H [ U X	
	D h f b l _ l h [ j Z a : ^ f b g b k l j Z p b b ] < Z e ^ Z c < Z e ^ Z c k d h h D h f k h f h e v k d b c f m g b p b i Z e v g h ] h ? j Z c h g Z	I h g _ ^ _ e \ i j i y l g b p Z	I j b _ f j j Z ^ Z g I h g _ ^ _ e v g b d \ l h j g b d q _ l \ j ] i y l g b p Z	V N R \ D Q G U X	
	H I ^ _ e h [ j Z a : ^ f b g b k l j Z p b b i < h e h l < h e h l h \ k d h h D h f k h f h e v k d Z y f m g b p b i Z e v g h ] h j Z c h g Z	I h g _ ^ _ e \ m e y l g b p Z	I h g _ ^ _ e \ m e y l g b p Z	Y R O # Q R Y J R Q U H R A G	
	D h f b l _ l h [ j Z a h \ Z g b x b k i h j \ m f y g k d E _ g b g Z > _ f y g k d h ] h f m g b p b i Z e v g h ] h j Z c h g Z	I h g _ ^ _ e \ m e y l g b p Z	I j b _ f j j Z ^ Z g K j _ ^ Z	G H P R R \ D Q G H [ U X	

	D hfbl_l h[jZa :^fbgbkljZpb bi Dj_klpu Dj_kl_pdh]h F hkdh\kdZy fm gbpbiZevgh]h jZchgZ	I hg_ ^_e` me ylg bpZ I jb_f ]jZ`^Zg \lhj gbd	N R P R E P D L O U X	
	D hfbl_l h[jZa :^fbgbkljZpb bi Ex[u lbg h Ex[u lbg kdh]h K h\ _l h\ fm gbpbiZevgh]h jZchgZ	I hg_ ^_e` me ylg bpZ I jb_f ]jZ`^Zg <lhj gbd q_\ _j]	N R P O \D Q G H[ U X	
	D hfbl_l h[jZa b fheh^_ `gh c] F Z e Zy <br_jiZ lg bpZ i heb l b db me <heh^Z jk dh]h F Z eh\br_jk d n]h fm gbpbiZevgh]h jZchgZ	I hg_ ^_e` I ylg bpZ I jb_f ]jZ`^Zg Q_\ _j] I ylg bpZ	R R # Q R Y J R Q U H R \G	
	H I^_e h[jZa :^fbgbkljZpb b k F Z j_\ h F Z j_\ k dh]h me K h\ _l h\ fm gbpbiZevgh]h jZchZg	I hg_ ^_e` i ylg bpZ I jb_f ]jZ`^Zg I hg_ ^_e v g b d kj_ ^Z	E L E Q R Y J R U R G Q H W	
	D hfbl_l h[jZa :^fbgbkljZpb bk F hr_g k dh_ F hr_g k dh]h K h\ _l k dZy fm gbpbiZevgh]h jZchgZ	I hg_ ^_e` i ylg bpZ I jb_f ]jZ`^Zg I hg_ ^_e v g b d kj_ ^Z q_\ _j]	V K N F Q R Y J R U R G Q H W	
	D hfbl_l h[jZa :^fbgbkljZpb b <_e b d b c Gh\ ]h jh^k dh]h Gh\ ]h jh^ fm gbpbiZevgh]h= _j f Z g Z jZchgZ	I hg_ ^_e me i ylg bpZ I jb_f ]jZ`^Zg <lhj gbd	N R P # Q R Y J R U R G Q H W	

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	DhfbI_l h[jZa :^fbgbkljZpb b ] Hdmeh\kdh]h meDbjh\Z fmgbpbiZevgh]h jZchgZ	Ihg_^\_e\:\\dZ iylgbpZ Ijb_f ]jZ`^\_Zg <lhjgbd kj_^\_Z iylgbpZ	PHU QRYJRURG QHW	
	Hl^\_e h[jZa lZjnbgkdh]h i lZjnbg h fmgbpbiZevgh]h e E_gbgZ	Ihg_^\_e iylgbpZ Ijb_f ]jZ`^\_Zg Ihg_^\_ev gbd \lhjgbd kj_^\_Z	SDUYL \DQGH[ UX	
	DhfbI_l h[jZa :^fbgbkljZpb b ] l_klh\h l_klh\kdh]h i_j E_kghc	Ihg_^\_e\:\\iy\@pZ	RWGH QRYJRURG QHW	
	DhfbI_l h[jZa :^fbgbkljZpb b k lh^\^hjv_ l h^\^hjkdh]h me lhe_\Zy fmgbpbiZevgh]h jZchgZ	Ihg_^\_e\:\\iy\gbpZ Ijb_f ]jZ`^\_Zg <lhjgbd Q_\\_j]	NR # PDLQX	
	DhfbI_l h[jZa l fheh^\_ghc iheblbdb b khjiz Khepu :^fbgbkljZpb b Khe_pdh]h fmgbpbiZevgh]h jZchgZ	Ihg_^\_e\:\\iy\gbpZ Ijb_f ]jZ`^\_Zg Ihg_^\_ev gbd q_\\_j] <lhjgbd iy\gbpZ	WDQLXVI PDLO UX	
	DhfbI_l h[jZah\Zgbx ] KIZjZy Jmk\ZgbpZ :^fbgbkljZpb b me KZgd\ KIZjhjmkkdh]H_l_j[mj]kd Zy fmgbpbiZevgh]h jZchgZ	Ihg_^\_e\:\\iy\gbpZ Ijb_f ]jZ`^\_Zg	NR P UX # PD X NRBR#UDGPUUXVVD UX	

		i h g _ ^ _ e		
	D h f b l _ l h [ j Z a : ^ f b g b k l j Z p b b i O \ h c g Z y i y l g b p Z O \ h c g b g k d h ] h m e f m g b p b i Z e v g h ] h Z k g h Z j f _ c k d Z y l j b _ f ] j Z ` ^ Z g I h g _ ^ _ e v g b d \ l h j g b d	I h g _ ^ _ e \ i y l g b p Z l j b _ f ] j Z ` ^ Z g < l h j g b d q _ ! \ _ j ]	NR \ D Q G H [ U X	
	H I ^ _ e h [ j Z a : ^ f b g b k l j Z p b b ] O h e f O h e f k d h ] h m e H d l y [ j v k d Z y f m g b p b i Z e v g h ] h j Z c h g Z	I h g _ ^ _ e \ i y l g b p Z l j b _ f ] j Z ` ^ Z g < l h j g b d q _ ! \ _ j ]	NR K R \ D Q G H [ U X	
	D h f b l _ l h [ j Z a : ^ f b g b k l j Z p b b ] Q m ^ h \ h Q m ^ h \ k d h ] h m e G _ d j Z k h \ Z f m g b p b i Z e v g h ] h j Z c h g Z	I h g _ ^ _ e \ i y l g b p Z l j b _ f ] j Z ` ^ Z g K j _ ^ Z	F K X G R Y I I # \ D Q G U X	
	D h f b l _ l h [ j Z a : ^ f b g b k l j Z p b b i R b f k d R b f k d h ] h m e G h \ ] h j h ^ k d Z y f m g b p b i Z e v g h ] h j Z c h g Z	I h g _ ^ _ e \ i y l g b p Z l j b _ f ] j Z ` ^ Z g < l h j g b d k j _ ^ Z i y l g b p Z	V K N R \ D Q G H [ U X	
	D h f b l _ l i h h i h i _ q b l _ e v k < _ e b c \ m G h \ ] h j h ^ : ^ f b g b k l j Z p b b > _ k y l b g g Z y < _ e b d h ] h G h \ ] h j h ^ Z ?	I h g _ ^ _ e \ i y l g b p Z l j b _ f ] j Z ` ^ Z g I h g _ ^ _ e v g b d \ l h j g b d q _ ! \ _ j ]	V H Y D G P Q R Y U X	

B B

l b e h ` g b  
 d Z ^ f b q b k l j Z l b \ g h f m j \_ e  
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i i	G Z b f _ g h \	F _ k l h g Z o h ^	= j Z n b j Z [ h l u	L _ e h g u	W e _ d g g Z y i h q l
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n Z f b e b y b f y h l q \_ k l \ h i j b g Z e b q b b j \_ [ \_ g d Z ^ \_ l \_ c q b k e h f \_ k  
□ i j h r m i \_ j \_ ^ Z l v f g \_ i h ^ h i \_ d m i h i \_ q b l \_ e v k l \ h a k h k l g h g Z \ h a f \_ a ^

n Z f b e b y b f y h l q \_ k l \ h i j b g Z e b q b b j \_ [ \_ g d Z ^ \_ l \_ c q b k e h f \_ k  
F Z l \_ j b Z e v g u \_ \ h a f h ` g h k l b ` b e b s g u \_ m k e h \ b y k h k l h y g b \_ a ^ h j h \ v y b o  
\ a y l v j \_ [ \_ g d Z ^ \_ l \_ c i h ^ h i \_ d m i h i \_ q b l \_ e v k l \ h x g Z [ h h k j b d g Z g b \_ \ \ k b o  
m k l Z g h \ e \_ g g u o k \_ f \_ c g u f a Z d h g h ^ Z l \_ e v k l \ h f J h k k b c k d h c N \_ ^ \_ j Z p b b n h j f Z  
> h i h e g b l \_ e v g h f h ] m k h h [ s b l v h k \_ [ \_ k e \_ ^ m x s \_ \_

m d Z a u \ Z \_ l k y g Z e b q b \_ m ] j Z ^ Z g b g Z

g \_ h [ o h ^ b f u o a g Z g b c b g Z \ u d h \ \ \ h k i b l Z g b b ^ \_ l \_ c b q b b q b k e n f b g d h h j f z

h [ h [ j Z a h \ Z g b b h i j h n \_ k k b h g Z e v g h c ^ \_ y l \_ e v g h k l b h i j h o h ^ \_ g b b i j h ] j z  
h i \_ d m g u b e b i h i \_ q b l \_ e b b l ^

Y

n Z f b e b y b f y h l q \_ k l \ h i j b g Z e b q b b  
^ Z x k h ] e Z k b \_ g Z h [ j Z [ h l d m b b k i h e v a h \ Z g b \_ f h k b ^ i j ] K s p o Z k y g u o g Z k l g y  
a Z y \ e \_ g b b b \ i j \_ ^ k l Z \ e \_ g g u o f g h x ^ h d m f \_ g l Z o

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ih^ibkv ^ZIZ

B B

Ijbeh`\_gb  
d\_Z^fbgbkljZlb\ghfm j\_jeZf\_g  
ij\_>hkiZ\ej\_gby Jhkm^Zjkl\g  
m\kem]@<u^ZqZ aZdexq\_g  
\hafh ghklb [ulhi\_dmgf  
ihic\_e\_f ijb\_fguhjh

M\j`^\_gZ  
Fbgbkl\_jkl\hf a^jZ\hhojZg  
Jhkkbckdhc N\_>jZp  
hl bxgy ] 1

NhjfZ

AZdexq\_gb\_  
h jamevIZIZo f\_>bpbkgdjh h hk\b^\_l\_evkl\h\Zgby  
gZf\_j\_\Zxsbo k y mkugh\blv m^hq\_jblv ihia\_yqlbli\_b\kh\hd  
\ijb\_fgm x be b iZljh gZlgmx kk\bj\h\k\l\l\c  
hkIZ\rboky [\_a ihiq\_gby jh^bl\_e\_c  
hl \^ ]

<u^Zgh

gZbf\_gh\Zgb\_ b Z^j\_k f\_>bpbkgd h c h j]Zgb  
GZbf\_gh\Zgb\_ h j]ZgZ dm^Z ij\_>kIZ\ey\_iky azdexq\_gb

NZfb eby b\fq\_kl\h

N B H e bpZ gZf\_j\_\Zxs\_]hky mkugh\bl  
\aylv ih^ hi\_dm ihiqbl\_evkl\h \ijb  
iZljh gZlgmx k\_fv\k\h\l\bc^\_l\_c hkIZ\rboky  
ihiq\_gby jh^bl\_e\_c

Ihe fm`kdhc `gkdbc

>ZIZ jh`^\_gby

:^j\_k f\_kiZevkl\Z

AZdexq\_gb\_ g\_gm`gh\_ aZq\_jdgmlv

<uy\eh gZebqb\_ h\kmlkl\bl aZ[he\_\Zgb c ijb gZebqb  
mkugh\blv m^hq\_jblv j\_[\_gdZ ijbgylv \_]h ih^ hi\_dm i  
ijb\_fgm x be b iZljh gZlgmx k\_fvx

Ij\_>k\_>ZI\_e v[gj\ZQ dhfbkkbb

N B H

ih^ibkv

^ZIZ

F I

IhkIZgh\eh\_gb\_ IjZ\Z\h\ek\k\h\c N\_>jZpbb hl n\_\jZey ]  
ij\_qgy aZ[he\_\Zgb c ijb gZebqb dhlhjo ebph g\_fh\_l mkugh\blv m^h  
hi\_dm ihiqbl\_evkl\h \aylv \ijb\_fgm x be b iZljh gZlgmx kk\l\w\k\l  
Jhkkbckdhc N\_>jZpbb < kl  
BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB

I j b e h ` \_ g b  
d Z ^ f b g b k l j Z l b \ g h f m j ] e Z f \_ g l m  
i j ^ h k l Z \ e \_ g b y l h k m ^ Z j k l \ \_ g g h c  
m k e n @ b u ^ Z q Z a Z d e x q \_ g b y h \ h a f  
[ u l v h i \_ d m g h f i h i \_ q b l \_ e \_ f i j b \_ f  
j h ^ b l \_ ε

M I \\_j`^\_g Z i j b d Z a h f F  
h l g h y [ j y ] 1  
n h j f Z

M = E H < HC RL:

NDM = B:P F<> Jhkkbb BP l\_jjb\lhbjZevghjh h]ZgZ  
F<> Jhkkbb gZ j\_lbhgZevghf mjh\g\_

D H J ? R H D K I J : < F < > J h k k  
1 B  
j \_ ] b k l j Z p b h g g u c  
g h f \_ j a Z y \ e \_ g b y

1

K | J : < D

h gZebqbb NbkbmIk^bfhklb b beb nzdiZ m]heh  
KijZ\dZ \ hIghr ij\_ke\_ ^h\Zgby eb[h h ij\_djzs\_gbb m]heh\gh]h ij\_  
BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB  
nZfbeby bgbpbz eunZfbeby bfy hlq\_kl\h ijb gZebqh ebpZ \ lhf  
ijh\jy\_fh]h ebpZ \ bf\_\rb\_ky jZg\_\_ \ bf\_gbl\_evghf iZ^`\_  
bf\_gbl\_evghf iZ^`\_

KijZ\dm ihe

$\wedge Z | Z \ b \ f \ k | h \ j h$

B  
n Z f b e b y   b g b p b Z e u  
i h e m q Z l \_ e y  
B B B B B B B B B B B < N D M<sub>1</sub> = e

KijZ\c gZijZ\e\_`\_s BP I\_jjb\hjbZevgh]h h]ZgZ F<> Jhkkbb gZ j  
I\_jjb\hjbZevguc h]Zg F<>  
Jhkkbb gZ jZchggf m\fh\glky g\_ bf\_xlky k\\_\^\_gby h km^bfhklb \ iZg gZ l iiblhibb .lhkkhckdhc N ^ iZpbh

B B B B B B

<sup>^</sup>ZIZ hkm`<sup>^</sup>\_gby gZbf\_gh\Zgb\_ km^Z \ug\_kr\_] kIzIvy m]heh\gh]h aZdhgZ kjhd b \b^ gZdzaZgby  
hkh[h`^ gby hkgh\Zgb y kqy

b f \_x l k y g \_x l k y k \\_ ^\_ g b y h n Z d l \_ m ] h e h \g h ] h i j \_  
K i j Z \d Z g Z i j Z \e \_g Z \ i j \_d j Z s \_g b b m ] h e h \g h ] h i j \_k e \_^h \Z g b y g Z l \_j j b l h j  
f g h ] h n m q d p b h g Z e v q u N p ^ q i l Z p b b

BB BBB BBB BBB

$\wedge Z \mid Z \backslash ha[m \wedge_g b \ y \ m]heh \backslash gh]h \wedge_e Z \ gZbf \_gh \backslash$

i m g d l q Z k l v k l Z l v y m ] h e h \ g h ] h a Z d h g Z ^ Z I Z  
m l h e h \ g h l h i i k e ^ h \ Z g b v

BB BBBB BBBB

G Z g Z e v g b d a Z f

B BBBB

B B B B B B B B B B B B B

Ijbeh`\_gb  
d\_Z^fbgbkTjZlb\ghfm j\_jeZf\_g  
ij\_`^hklZ\ej\_gby Jhkm^Zjkl\g  
mke[m]b*<*u^ZqZ aZdexq\_g  
\hafh ghklb [ulhi\_dmgf  
ih\_i\_qbl\_e\_f ijb\_fguf

M\j`^gZ  
Ijb dZahf Fbgbkl\_jkl\Z h[jZah  
b gZmdb Jhkkbckdhc N\_`  
hl

NhjfZ

;eZgd hj]ZgZ  
hi\_db b  
ihi\_qbl\_evkl\Z  
>ZIZ khklZ\ej\_gby ZdIZ

:dl h[ke\_`^h\Zgby mkeh\bc `bagb ]jZ`^Z]ghb\Zg\Zab\Z  
kIZ\h hi\_dmghf beb ihi\_qbl\_e\_f g\_kh\jr\_gghe\_lg\_]h  
eb[h ijbgylv ^\_l\_c hkIZ\rboky [\_a ihi\_q\_gby jh^bl\_e  
gZ \hkiblZgb\_ \bguo mkIZgh\ej\_gguo k\_f\_cguf aZdhg  
Jhkkbckdhc N\_`\_jZpbb nhjfZo

>ZIZ h[ke\_`^h\Zgby ^3  
NZfbeby bfy h\lq\_kl\h ijg Zebqbb ^he`ghklv ebpZ ijh

Ijh\h^behkv h[ke\_`^h\Zgb\_ mkeh\bc `bagb  
nZfbeby bfy h\lq\_kl\h ijg Zebqbb

^ZIZ jh`^\_gby  
^hdmf\_gl m^hklh\jyxsb c ebqghklv

dh]^Z b d\_f \u^Zg  
f\_klh `b\k\Z  
Z^j\_k f\_klZ `bl\_evkl\Z ih^l\j`^\_gguc j\_]bk

f\_klh ij\_[u\Zgby  
Z^j\_k f\_klZ nZd\l b\k dh]h ijh`b\Zgby b ijh\^\_g

H[jZah\Zgb\_  
Ijh\_n\_kkbhgZevgZy ^\_yl\_evhklv

f\_klh jZ[hluk mdZaZgb\_f Z^j\_kZ aZ\gl\Z\hlc\eh\eg\Zklb  
@beZy iehsZ^v gZ dh\hjhc ijh`b\Z\_l  
nZfbeby bfy h\lq\_kl\h ijg Zebqbb  
khklZ\ey\_l d\ f khklhbl b\hfgZl jZaf\_j dZ`^hc\_dh\glZfu  
d\ f gZ w\lZ`\_w\lZ`ghf ^hf\_

DZq\_kl\h ^hfZ dbjibqguc iZg\_ evfud i^\_j\_ gyhjgZ evghf khkl  
\\_lobc Z\Zjbcguc dhfgZlu kmob\_ k\leu\_ ijho h^gu\_ dheb

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;eZ]hmkljhckl\h ^hfZ b `behc iehsZ^b \h^hijh\h^ dZgZebaZ  
\ZggZ ebnl l\_e\_nhg b l ^

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KZgbIZj\h b\_g\kph\_ khklhygb\_ `behc iehsZ^b ohjhr\_\_ m^h\eh  
g\_m^h\eh\_l\hjbl\_evh\_

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GZebqb\_ ^ey j\_[\_gdZ h\l^\_evghc dhfgZlu m]hedZ f\_klZ

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GZ `behc iehsZ^b ijh`b\Zxl aZj\_]bkljbjh\Zgu \ mkIZgh\eh\_gg  
nZdlbqb\_kd

NZfbaby	=h	F_klh_jZ[	Jh^kl\_\epsilon	K_dZdh]h\j
h\lq_kl\h ij b g\Zj\h b_q\h b	b\y\h e`ghklv beb	m\q_[u	f_kl\h r_gb	ijh`b\Z_l\h g\Zggc`behc

Highr\_gby keh`b\rb\_ky f\_`^m qe\_gZfb k\_fvb ]jZ`^ZgbgZ  
oZjZdl\_jf\h\h\_Zphr\_gbc

f\_`^m qe\_gZfb k\_fvb hkh[\_gghklb h[s\_gby k ^\_lvfb ^\_l\_

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Ebqgu\_ dZq\_kl\Z ]jZ`^ZgbgZ hkh[\_gghklb oZjZdl\_jZ h[s Zy  
h[s\_gby k ^\_lvfb b l ^

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Fh\l b\u ]jZ`^ZgbgZ ^ey ijbgylby lg\_k\h\ljk\_g\h e\_

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>hihegbI\_evgu\_ ^Zggu\_ h[ke\_ ^h\Zgb

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Mkeh\by `bagb ]jZ`^ZgbgZ \ujZab\r\_]h `\_eZgb\_ k\Ziv hi\_  
g\_kh\jr\_gghe\_lg\_]h ]jZ`^ZgbgZ eb[h ijbgylv ^\_l\_c hklZ

j h ^ b l \_ e \_ c \ k \_ f v x g Z \b g u b l Z g h \e \_ g g u o k \_ f \_ c g u f a Z d h g  
J h k k b c k d h c N \_ ^ \_ j Z p b b n h j f Z o

m ^ h \e \_ I \h j b l \_ e v g u \_ g \_ m ^ h \e \_ I \h j b l \_ e v g u \_ h

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d h g d j \_ I g u o h [ k l h y l \_ e v k l \

I h ^ i b k v e b p Z i j h \h ^ b \r \_ ] h h [ k e \_ ^ h \Z g b \_

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j m d h \h ^ b l \_ e v h j ] Z g Z h i \_ d i t h \b k v  
b i h i \_ q b l \_ e v k l \Z

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N B H

F I

B B

Ijbeh`\_gb  
d\_Z^fbgbkljZlb\ghfm j\_jeZf\_g  
ij\_hkIZ\ej\_gby\_jhkm^Zjkl\g  
m\kem]@<u^ZqZ\_aZdexq\_gb  
\hafh\_ghklb [ulhi\_dmgf  
ih\_i\_qbl\_e\_f ijb\_fguf

M\j`^\_gZ  
IjbdZahf Fbgbkl\_jkl\z  
h[jZhZgby b gZmd  
Jhkkbckdhc N^\_jZp  
hl n\_\jZey ] 1

N hjfZ

;eZgd hj]ZgZ hi\_db  
b ihi\_qbl\_evkl\Z

A : DEXQ ? GB ?

hj]ZgZ hi\_db b ihi\_qbl\_evkl\Z \u^Zggh\_ ih f\_klm `bl\_e  
h \hafh`ghklb ]jZ`^ZgbgZ [ulv mkugh\bl\_e\_f be\_be\_hf\_dmg

N B H iheghklvx ±hjq glZebqbb h^gh]h kmijm]Z

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>ZIZ jh`^\_gby aZj\_]bkljbjh\Zgguc\_ih Z^j\_km  
k mdZaZgb\_f ihqjh\h]h bg^

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N B H iheghklvx ±hijph\_kgZebqbb \hjh]h kmijm]Z ijb gZebqbb  
h[jZs\_gby h[mbj\h]

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>ZIZ jh`^\_gby aZj\_]bkljbjh\Zgguc\_ih Z^j\_km  
k mdZaZgb\_f

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Ijh`b\Zxsbc sb\_ ih Z^j\_km  
k mdZaZgb\_f ihqjh\h]h

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bg^\_dkZ

OZjZdl\_jbkldZ k\_fvb khkIZ\ ^ebI\_evghklv [jZdZ ijb gZebqbt  
gZebqb\_ h l ij\_u^ms\_jh [jZdZ hiul h[s\_gby k ^\_lvfb \aZbfhh  
k\_fvb gZebqb\_ [ebadbo jh^kl\ggbdh\ b bo h\ghr\_gb\_ d ij  
oZjZdl\_jheh]bq\_kdb\_ hkh[\_gghklb dZg^b^ZIZ \ mkugh\bl\_eb hi  
jh^bl\_é\ljhgZlgu\_ \hkiblZl\_eb ijb mkugh\le\_gbb m^hq\_j\_gbb j  
mdZaZl v gZebqb\_ kh]eZkby \hjh]h kmijm]Z gZ mkugh\le\_gbb\_ m^h  
ihi\_qbl\_evk\k]eZkb\_ \k\_o kh\jr\_gghe\_lgbo qe\_gh\ k\_fv\k k m  
^hklb]rboe\_lg\_]h \hajZkIZ ijh`b\Zxsbo kh\f\_klh k jjZ`^Zgbghf  
kZl v hi\_dmghf ihi\_qbl\_e\_f gZ ijb\_f j\_[\_gdZ ^\_l\_c \ k\_fvx

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H[jZah\Zgb\_ b ijh\_n\_kkbhgZevgZy ^\_yl\_evghklv

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OZjZdl\_jbkldZ khkIhygb y a^hjh\vy\_ a\h\sh\h\vy\h\k\l\h\k\m\k\l\b\_ aZ[t  
ij\_iylkl\mxsboijbgylbx j\_[\_gdZ gZ \hkiblZgb\_ \ k\_fvx

FZI\_jbZe vgh\_ ih eh`\_gb\_ bf ms\_kl\h jZaf\_j aZjZ[hlgc ieZlu  
khhlg hr\_gb\_ jZaf\_jZ ^hoh^Z k ijh`blhqguf fbgb fmhf mklZg

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Fhlbu ^ey ijb\_fZ j\_[\_gdZ ^\_l\_c gZ \hkibIZgb\_ \k\_fvx

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Ih`\_eZgby ih dZg^b^ZImj\_ j\_[\_gdZ ^\_l\_c dhebq\_kl\h ^\_l\_c ihe  
^j

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AZdexq\_gb\_ h \hafh`ghklb g\_\hafh`ghklb

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[ulv dZg^b^ZIZfb hf \mkugh\bl\_eb beb hi\_dmg u ih\_i\_qbl\_eb  
j\_r\_gb\_ h \hafh`ghklb g\_\hafh`ghklb ]jZ`^Zg bgZ [ulv dZg^b^ZIZfb\_hfb\entkugh

ijbgbfZ\_lky k mq\_lhf ih`\_eZgbc ]jZ`^Zg bgZ hlghkbl\_aekgl\wheb\k\Z b k

---

\ kemqZ\_ ijbgy\by j\_r\_gb y h g\_\hafh`ghklb [ulv dZg^b^ZIZfb hf \mkugh

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ih\_i\_qbl\_eb ^he`gu [ulv mdZazgu ijbqbgu hidZaz

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^he`ghklv

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ih^ibkv

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nZfbaby bfy hlq\_kl\h ij b  
gZebqbb

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F I

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=jZ`^ZgZf khklhysbf \ aZj\_]bklbjh\Zggf [jZd\_ hnhfey\_lky h^gh aZdexq\_  
MdZau\Z\_lky\bkbfbklb hl \u[jZggc nhjfu k\_f\_cgh]h mkljhckl\Z ?keb aZ  
g\_kdhevdbo ebkizo ebklu ^he`gu [ulv ijhgmf\_jh\Zgu ijhrblu b kdj\_diexq\_ugb\_qZlV  
MdZau\Z\_lky \ aZ\bkbfbklb hl \u[jZggc nkh]\Zu k\_f\_cgh]h mkljh  
MdZau\Zxly ghjfu ghjfZlb\guo ijZ\h\uo Zdlh\ \ khhl\ikl\bb k dhlhju  
g\_\hafh`ghklb ]jZ`^Zg bgZ [ulv dZg^b^ZIZfb hf \ mkugh\bl\_eb beb hi\_dmg u ih

B B B B B B B B B B B B B B B B B B B B