PROGRAM-7

**WAP to implement Polyalphabetic cipher with key in C++.**

#include<stdio.h>

#include<string.h>

char pt[40]={'\0'},key[40]={'\0'},ct[40]={'\0'},pta[40]={'\0'},k[40]={'\0'};

int i,j; // global values

int main()

{

printf("\nEnter the Plain text:\n");

gets(pt);

printf("\nEnter the key:\n");

gets(k);

printf("The convergen matrix\n");

printf("\n ");

for(j=97;j<=122;j++)

{

printf(" %c",j);

}

printf("\n--------------------------------------------------------\n");

for(i=97;i<=122;i++)

{

printf("%c |",i);

for(j=97;j<=122;j++)

{

if(((i+j))>219)

{

printf(" %c",((i+j)-155));

}

else

{

printf(" %c",((i+j)-129));

}

}

printf("\n");

}

// for keyword

j=0;

for(i=0;i<strlen(pt);i++)

{

key[i]=k[j];

if(j==(strlen(k)-1))

{

j=0;

}

else

{

j++;

}

}

for(i=0;i<(strlen(pt)-1);i++);

k[i]='\0';

printf("\nThe encrypted text is:\n");

// encryption

for(i=0;i<strlen(pt);i++)

{

if(97<=(int)pt[i] && (int)pt[i]<=122)

{

if(((int)pt[i]+(int)key[i])>219)

{

ct[i]=(int)pt[i]+(int)key[i]-123;

}

else

{

ct[i]=(int)pt[i]+(int)key[i]-97;

}

printf("%c",(ct[i]-32));

}

else

{

ct[i]=pt[i];

printf("%c",pt[i]);

}

}

// decryption

printf("\n\nDecrypted text is:\n");

for(i=0;i<strlen(ct);i++)

{

if(97<=(int)ct[i] && (int)ct[i]<=122)

{

if(((int)ct[i]-(int)key[i])<0)

{

pta[i]=((int)ct[i]-(int)key[i])+123;

}

else

{

pta[i]=(int)ct[i]-(int)key[i]+97;

}

printf("%c",pta[i]);

}

else

{

pta[i]=ct[i];

printf("%c",pta[i]);

}

}

return 0;

}

**OUTPUT**

Enter the Plain text:

delhi

Enter the key:

k

The convergen matrix

a b c d e f g h i j k l m n o p q r s t u v w x y z

--------------------------------------------------------

a | A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

b | B C D E F G H I J K L M N O P Q R S T U V W X Y Z A

c | C D E F G H I J K L M N O P Q R S T U V W X Y Z A B

d | D E F G H I J K L M N O P Q R S T U V W X Y Z A B C

e | E F G H I J K L M N O P Q R S T U V W X Y Z A B C D

f | F G H I J K L M N O P Q R S T U V W X Y Z A B C D E

g | G H I J K L M N O P Q R S T U V W X Y Z A B C D E F

h | H I J K L M N O P Q R S T U V W X Y Z A B C D E F G

i | I J K L M N O P Q R S T U V W X Y Z A B C D E F G H

j | J K L M N O P Q R S T U V W X Y Z A B C D E F G H I

k | K L M N O P Q R S T U V W X Y Z A B C D E F G H I J

l | L M N O P Q R S T U V W X Y Z A B C D E F G H I J K

m | M N O P Q R S T U V W X Y Z A B C D E F G H I J K L

n | N O P Q R S T U V W X Y Z A B C D E F G H I J K L M

o | O P Q R S T U V W X Y Z A B C D E F G H I J K L M N

p | P Q R S T U V W X Y Z A B C D E F G H I J K L M N O

q | Q R S T U V W X Y Z A B C D E F G H I J K L M N O P

r | R S T U V W X Y Z A B C D E F G H I J K L M N O P Q

s | S T U V W X Y Z A B C D E F G H I J K L M N O P Q R

t | T U V W X Y Z A B C D E F G H I J K L M N O P Q R S

u | U V W X Y Z A B C D E F G H I J K L M N O P Q R S T

v | V W X Y Z A B C D E F G H I J K L M N O P Q R S T U

w | W X Y Z A B C D E F G H I J K L M N O P Q R S T U V

x | X Y Z A B C D E F G H I J K L M N O P Q R S T U V W

y | Y Z A B C D E F G H I J K L M N O P Q R S T U V W X

z | Z A B C D E F G H I J K L M N O P Q R S T U V W X Y

The encrypted text is:

NOVRS

Decrypted text is:

delhi

Process returned 0 (0x0) execution time : 9.344 s

Press any key to continue.