```
#include <stdio.h>
#include<stdlib.h>
char stack[100]; int top=-1;
void push(char x)
{
   stack[++top]=x;
   top=top+1;
}
void encryption()
{
   char message[100],c;
   int i,key;
   printf("\nEnter the message to encrypt:");
   scanf("\n%[^\n]s",message);
   printf("\nEnter key:");
   scanf("%d",&key);
   for(i=0;message[i]!='\0';i++)
   {
      c=message[i];
      if(c>='a'&& c<='z')
      {
         c=(((message[i]+key-97)%26)+97);
         push(c);
      }
      else if(c>='A'&& c<='Z')
      {
         c=(((message[i]+key-65)%26)+65);
         push(c);
      }
      else if(c>=' ' && c<='@')
      {
```

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            c=(((message[i]+key-32)%33)+32);
            push(c);
        }
        else if(c>='['&& c<='`')
        {
            c=(((message[i]+key-91)%6)+91);
            push(c);
        }
        else if(c>='{' && c<='~')
        {
            c=(((message[i]+key-123)%4)+123);
            push(c);
        }
    }
    printf("Encrypted message is\n");
    for(i=0;i<=top;i++)
    {
      printf("%c",stack[i]);
    }
    top=-1;
}
void decryption()
{
    char message[100], ch;  int i, key, keyk;
     printf("\nEnter a message to decrypt: ");
     scanf("\n%[^\n]s",message);
     printf("\nEnter key: ");
     scanf("%d", &key);
     for(i=0;message[i]!='\0';i++)
     {
        ch = message[i];
```

```
if(ch >= 'a' && ch <= 'z')
{
    keyk=key%26;
    ch=message[i]-keyk;
    if(ch<'a')
    {
       ch=ch+26;
    }
    push(ch);
}
else if(ch >= 'A' && ch <= 'Z')
{
  keyk=key%26;
  ch=message[i]-keyk;
  if(ch<'A')
  {
      ch=ch+26;
  }
  push(ch);
}
else if(ch>=' ' && ch<='@')
{
   keyk=key%33;
   ch=message[i]-keyk;
   if(ch<' ')
    {
       ch=ch+33;
    }
   push(ch);
}
else if(ch>='[' && ch<='`')
```

```
        {
            keyk=key%6;
            ch=message[i]-keyk;
            if(ch<'[')
            {
                ch=ch+6;
            }
            push(ch);
        }
        else if(ch>='{'&&ch<='~')
        {
            keyk=key%4;
            ch=message[i]-keyk;
            if(ch<'{')
            {
                ch=ch+4;
            }
            push(ch);
        }
    }
    printf("Decrypted message:\n");
    for(i=0;i<=top;i++)
    {
      printf("%c",stack[i]);
    }
    top=-1;
}
int main()
{
   int start;
   while(1)
```

```
  {
    printf("\n 1. CIPHER");
    printf("\n 2. DECIPHER");
    printf("\n 3. EXIT");
    printf("\n Enter your choice:");
    scanf("%d",&start);
    switch(start)
    {
      case 1: encryption();
              break;
      case 2: decryption();
              break;
      case 3: exit(1);
      default: printf("Invalid Input\n");
    }
  }
}
```