

```
#include <stdio.h>
```

```
#include <string.h>
```

```
void cipher (int i, int c);
```

```
int findMin ( );
```

```
void makeArray (int, int);
```

```
char arr [22][22], darr [22][22],  
    emessage [111], retmessage [111], key  
    [55];
```

```
char temp [55], temp2 [55];
```

```
int k = 0;
```

```
int main ( )
```

```
{
```

```
    char * message, * dmessage;
```

```
    int i, j, klen, emlen, flag = 0;
```

```
    int r, c, index, min, rows;
```

```
    clrscr ( );
```

```
    printf (" Enter the key \n ");
```

```
    fflush (stdin);
```

```
    gets (key);
```

```
    printf ("\n Enter message to be  
    ciphered \n ");
```

```
flush (stdin);  
gets (message);
```

```
strcpy (temp, key);  
klen = strlen (key);
```

```
k = 0
```

```
for (i = 0; i < t
```

```
if (flag == 1)  
break;
```

```
for (j = 0; key[j] != NULL; j++)
```

```
{
```

```
if (message[k] == NULL)
```

```
{
```

```
flag = 1;
```

```
arr[i][j] = '-';
```

```
}
```

```
else
```

```
{
```

```
arr[i][j] = message[k++];
```

```
}
```

```
}
```

```
}
```

```
i = j;
```

```
C = j;
```

```
for (i=0; i<n; i++)
```

```
{
    for (j=0; j<c; j++)
```

```
        printf ("%c", an[i][j]);
```

```
    }
```

```
}
```

```
k=0;
```

```
for (i=0; i<len; i++)
```

```
{
```

```
    index = findMin(c);
```

```
    cipher[c[index]];
```

```
}
```

```
emessage[k] = '\0';
```

```
printf ("\n Encrypted msg is\n");
```

```
for (i=0; emessage[i] != '\0'; i++)
```

```
    printf ("%c", emessage[i]);
```

```
printf ("\n\n");
```

```
// deciphering
```

$emlen = strlen(emessage);$
 $\triangleright emlen$ is length of encrypted message

$strcpy(temp, key);$

$rows = emlen / klen;$

// rows is no of rows of the array to be made from rows;

$j = 0;$

for ($i = 0, k = 1; emessage[i] \neq \text{NULL}; i++, k++$)

{

// printf ("len emlen = %d", emlen)
 $temp[k++] = emessage[i];$
 if ($(k \% rows) == 0$)

{

$temp[k] = '\0';$
 $index = findMi(i);$
 $makeArray(index, rows);$
 $j = 0;$
 }

}

printf ("In Array Retrieved is\n");


```
k=0
for (i=0; i<v; i++)
```

```
{
    for (j=0; j<c; j++)
```

```
{
    printf (" %c ", data[i][j]);
    // retrieving message
    retmessage[k++] = data[i][j];
```

```
}
printf ("\n");
```

```
{
    retmessage[k] = '\0';
```

```
printf ("In Message ketrie is\n");
```

```
for (i=0; retmessage[i] != NULL; i++)
    printf (" %c ", retmessage[i]);
```

```
getch();
return 0;
```

```
void makearray (int col, int row)
```

```
{
    int i, j;
```

```
for (i=0; i<100
```

```
{  
    data[i][col] = temp[i];
```

```
}
```

```
int findMin()
```

```
{
```

```
    int i, j, min, index;
```

```
    min = temp[0];
```

```
    index = 0;
```

```
    for (j=0; temp[j] != null; j++)
```

```
        if (temp[j] < min
```

```
        {
```

```
            min = temp[j];
```

```
            index = j;
```

```
        }
```

```
    }
```

```
    temp[index] = 123;
```

```
    return (index);
```

```
}
```