----------STRINGS PROGRAM----------

//WAP to find input and output your name and address

```
#include<stdio.h>
#include<conio.h>
int main(){
        char name[100], address[100];
        printf("Enter Your Name:");
        gets(name);
        printf("Enter Your Address:");
        gets(address);
        printf("Your name is :%s and address is:%s", name,address);
getch();
return 0;
 }
```

//WAP to find length of string

```
#include<stdio.h>
#include<conio.h>
int main(){

        char string[100];
        int i=0;
        printf("Enter any string:");
        gets(string);
        while( string[i] != '\0'){
                i++;
        }
        printf("\nThe length of string is :%d", i);

getch();
return 0;
 }
```

//WAP to display string in reverse order

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

```
int main(){

        char string[100];
        int i=0, j;
        printf("Enter any string:");
        gets(string);
        while( string[i] != '\0'){
                i++;
        }
        printf("\nThe reverse of %s is: ", string);
        for(j=i-1; j>=0; j--){
                printf("%c", string[j]);
        }
getch();
return 0;
 }
```

//WAP to copy one string to another

```
#include<stdio.h>
#include<conio.h>
int main(){
        char str1[100], str2[100];
        int i=0;
        printf("Enter any string:");
        gets(str1);

        while( str1[i] != '\0'){
                str2[i]=str1[i];
                i++;
        }
        printf("\nThe copied string is : ");
        puts(str2);
getch();
return 0;
 }
```

//WAP to copy one string to another in reverse order

```
#include<stdio.h>
#include<conio.h>
int main(){

        char str1[100], str2[100];
        int length=0, i;
```

```
        printf("Enter any string:");
        gets(str1);

        //finding length of character array
        while( str1[length] != '\0'){
                length++;
        }
        //copying in reverse order into str2
        for(i=length-1;i>=0;i--){
                str2[length-i] = str1[i];
        }
        printf("\nThe copied string is : ");
        puts(str2);
getch();
return 0;
 }
```

//WAP to check for palindrome string

```
#include<stdio.h>
#include<conio.h>
int main(){

        char str[100];
        int length=0, flag=0, middle, i;
        printf("Enter any string:");
        gets(str);

        //finding length of character array
        while( str[length] != '\0'){
                length++;
        }
        //checking for palindrome
        middle = length/2;
        for(i=0; i<=middle; i++){
                if(str[i]!=str[length-i-1]){
                        flag=1;
                        break;
                  }
        }
        if(flag==0){
                printf("\n%s is palindrome", str);
        }
```

```
        else{
                printf("\n%s is not palindrome", str);
        }
getch();
return 0;
 }
```

//WAP to count number of vowels in a string

```
#include<stdio.h>
#include<conio.h>
int main(){

        char str[100];
        int length=0, flag=0, i;
        printf("Enter any string:");
        gets(str);
        //finding length of character array
        while( str[length] != '\0'){
                length++;
        }
        //finding freuquency of vowels
        for(i=0; i<length; i++){
                if(str[i]== 'A' || str[i]== 'a'|| str[i]== 'E' || str[i]== 'e'
                || str[i]== 'I'|| str[i]== 'i' || str[i]== 'O' || str[i]== 'o' ||
                str[i]== 'U' || str[i]== 'u'){
                        flag++;
                }
        }
        printf("\nNumber of Vowels is:%d", flag);
getch();
return 0;
 }
```

//WAP to count number of alphabets, digits, special symbols in a string

```
#include<stdio.h>
#include<conio.h>
int main(){

        char str[100];
        int vcount=0, i=0, dcount=0, scount=0;
```

```
        printf("Enter any string:");
        gets(str);
        while( str[i] != '\0'){
                //counting alphabets
                if((str[i]>=65&&str[i]<=90) ||   (str[i]>=97&&str[i]<=122)){
                        vcount++;
                }
                //counting digits
                else if(str[i]>=48&&str[i]<=57){
                        dcount++;
                }
                //counting special symbols
                else{
                        scount++;
                }
                i++;
        }

        printf("\nNumber of alphabets is:%d", vcount);
        printf("\nNumber of digits is:%d", dcount);
        printf("\nNumber of Special symbols is:%d", scount);


getch();
return 0;
 }
```

//WAP to convert string into Lowercase

```
#include<stdio.h>
#include<conio.h>
int main(){

        char str[100];
        int i=0;
        printf("Enter any string:");
        gets(str);


        //converting to lowercase
        while(str[i]!= '\0'){
                if(str[i]>=65&&str[i]<=90)
                        str[i]=str[i]+32;
```

```
            i++;
        }
        printf("\nThe converted string is:%s", str);
getch();
return 0;
 }
```

//WAP to convert string into UpperCase

```
#include<stdio.h>
#include<conio.h>
int main(){

        char str[100];
        int i=0;
        printf("Enter any string:");
        gets(str);
        //converting to uppercase
        while(str[i]!= '\0'){
            if(str[i]>=97&&str[i]<=122){
                str[i]=str[i]-32;
            }
            i++;
        }
        printf("\nThe converted string is:%s", str);
getch();
return 0;
 }
```

//WAP that reads string form user and to copy the contents of the read string into another character array changing lower case letters to upper case and upper case letters to lower case.

```
#include<stdio.h>
#include<conio.h>
int main(){

        char str1[100], str2[100] ;
        int i=0;
        printf("Enter any string:");
        gets(str1);
        //copying to another string
        while(str1[i]!= '\0'){
            if(str1[i]>=97&&str1[i]<=122){
```

```
                str2[i]=str1[i]-32;
            }
            else{
                str2[i]=str1[i]+32;
            }
            i++;
        }
        printf("\nThe copied string is:%s", str2);

getch();
return 0;
 }
```

//WAP to find frequency of character in given string (consider only alphabets)

```
#include<stdio.h>
#include<conio.h>
int main(){

        char str[100],  ch;
        int i=0, count=0;
        printf("Enter any string:");
        gets(str);
        printf("Enter character:");
        scanf("%c", &ch);
        //count frequency with case insensitiveness
        while(str[i]!= '\0'){
            if(str[i]==ch || str[i]==ch+32 || str[i]==ch-32 ){
                count++;
            }
            i++;
        }
        printf("\nThe Frequency of %c  in  %s  is: %d", ch, str, count);
getch();
return 0;
 }
```

//WAP to check whether a given character is present in an string or not and find its position (should work for repeated character also)

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

```
#include<conio.h>
int main(){

        char str[100],  ch;
        int pos[100], i=0, count=0,k=0;
        printf("Enter any string:");
        gets(str);
        printf("Enter character:");
        scanf("%c", &ch);
        //count frequency with case insensitiveness
        while(str[i]!= '\0'){
                if(str[i]==ch || str[i]==ch+32 || str[i]==ch-32 ){
                        count++;
                        pos[k]=i+1;
                        k++;
                }
                i++;
        }
        if(count==0){
            printf("\nThe character %c is not present in %s", ch, str);
        }
        else{
            printf("\nThe character %c is  present at location:", ch);
            for(i=0; i<k; i++){
                printf("%d\t", pos[i]);
            }
        }

getch();
return 0;
 }
```

//WAP to read 5 student name and display.

```
#include<stdio.h>
#include<conio.h>
int main(){

        char name[5][100];
        int i;
        printf("Enter Student Name:\n");
        //reading 5 student name
        for(i=0; i<5; i++){
                printf("Enter %d student name:", i);
```

```
            gets(name[i]);
        }
        //display 5 student name
        for(i=0; i<5; i++){
            printf("\nStudent name:%s", name[i]);
        }
getch();
return 0;
 }
```

//WAP to read n student name and sort it.

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
int main(){

        char name[100][100], temp;
        int i, n,j;
        printf("Enter number of student:\n");
        scanf("%d", &n);
        //reading n student name
        for(i=0; i<n; i++){
            printf("\nEnter %d student name:", i);
            gets(name[i]);
        }
        //display n student name
        for(i=0; i<n; i++){
            printf("\nStudent name:%s", name[i]);
        }
        //sorting n student name
        for(i=0; i<n; i++){
            for(j=i+1; j<n; j++){
                if(strcmp(name[i], name[j])>0){
                    strcpy(temp, name[j]);
                    strcpy(name[i], name[j]);
                    strcpy(name[j], temp);
                }
            }
        }
        //display sorted n student name
        printf("\n---------SORTED NAME--------");
        for(i=0; i<n; i++){
            printf("\nStudent name:%s", name[i]);
```

```
        }


getch();
return 0;
 }
```

//WAP to print following patterns.

1.

```
Enter a string: COMPUTER
C
C O
C O M
C O M P
C O M P U
C O M P U T
C O M P U T E
C O M P U T E R
```

```
#include<stdio.h>
#include<conio.h>
int main(){

        char str[100];
        int i, j;
        printf("Enter any string:");
        gets(str);

        for(i=0; str[i]!= '\0'; i++){
                for(j= 0; j<=i; j++){
                        printf("%c\t", str[j]);
                }
                printf("\n");
        }
getch();
return 0;
 }
```

2.

```
Enter a string: COMPUTER
C O M P U T E R
C O M P U T E
C O M P U T
C O M P U
C O M P
C O M
C O
C
```

```
#include<stdio.h>
#include<conio.h>
int main(){

        char str[100];
        int i, j, length=0;
        printf("Enter any string:");
        gets(str);

        //Finding length of string
        for(i=0; str[i]!= '\0'; i++){
                length++;
        }
        //printing pattern
        for(i=length-1; i>=0; i--){
                for(j= 0; j<=i; j++){
                        printf("%c\t", str[j]);
                }
                printf("\n");
        }

getch();
return 0;
 }
```

3.

```
Enter a string: ANKIT
A
A N
A N K
A N K I
A N K I T
A N K I
A N K
A N
A
```

```
#include<stdio.h>
#include<conio.h>
int main(){

        char str[100];
        int i, j, length=0;
        printf("Enter any string:");
        gets(str);

        //Finding length of string
        for(i=0; str[i]!= '\0'; i++){
                length++;
        }

        //For printing Upper pattern
        for(i=0; str[i]!= '\0'; i++){
                for(j= 0; j<=i; j++){
                        printf("%c\t", str[j]);
                }
                printf("\n");
        }

        /for /printing lower pattern
        for(i=length-1; i>=0; i--){
                for(j= 0; j<=i; j++){
                        printf("%c\t", str[j]);
                }
                printf("\n");
        }

getch();
return 0;
 }
```

4.

```
Enter string: COMPUTERS
Enter NUMBER OF ROWS :5
            C
          C O M
        C O M P U
      C O M P U T E
    C O M P U T E R S
```

```
#include<stdio.h>
#include<conio.h>
int main(){

        char str[100], rows;
        int i, j, k;
        printf("Enter any string:");
        gets(str);
        printf("Enter number of rows:");
        scanf("%d", &rows);

        for(i=1; i<=rows; i++){

                //Printing spaces
                for(j=rows-1; j>=i; j--){
                        printf("\t");
                }

                //For printing characters
                for(k=0; k<=(2*i-1-1); k++){
                        printf("%c\t", str[k]);
                }
                printf("\n");
        }


getch();
return 0;
 }
```

5.

```
Enter string: COMPUTERS
Enter NUMBER OF ROWS :5
    C O M P U T E R S
      O M P U T E R
        M P U T E
          P U T
            U
```

```
#include<stdio.h>
#include<conio.h>
int main(){
```

```
char str[100], rows;
int i, j, k;
printf("Enter any string:");
gets(str);
printf("Enter number of rows:");
scanf("%d", &rows);

for(i=rows; i>=1; i--){

        //Printing spaces
        for(j=rows; j>i; j--){
                printf("\t");
        }

        //For printing characters
        for(k=0; k<(2*i-1); k++){
                printf("%c\t", str[k]);
        }
        printf("\n");
}


getch();
return 0;
 }
```

6.

```
Enter a string: COMPUTER
                C
              C O
            C O M
          C O M P
        C O M P U
      C O M P U T
    C O M P U T E
  C O M P U T E R
```

```
#include<stdio.h>
#include<conio.h>
int main(){
```

```
char str[100];
int i, j, k, length=0;
printf("Enter any string:");
gets(str);

//Finding length of string
for(i=0; str[i]!= '\0'; i++){
        length++;
}
for(i=length; i>=1; i--){

        //Printing spaces
        for(j=1; j<i; j++){
                printf("\t");
        }

        //For printing characters
        for(k=0; k<=length-i; k++){
                printf("%c\t", str[k]);
        }
        printf("\n");
}


getch();
return 0;
 }
```

7.

```
Enter a string: COMPUTER
                C O M P U T E R
                 C O M P U T E
                  C O M P U T
                   C O M P U
                    C O M P
                     C O M
                      C O
                       C
```

```
#include<stdio.h>
#include<conio.h>
int main(){
```

```
        char str[100];
        int i, j, k, length=0;
        printf("Enter any string:");
        gets(str);

        //Finding length of string
        for(i=0; str[i]!= '\0'; i++){
                length++;
        }
        for(i=1; i<=length; i++){

                //Printing spaces
                for(j=1; j<i; j++){
                        printf("\t");
                }

                //For printing characters
                for(k=0; k<=length-i; k++){
                        printf("%c\t", str[k]);
                }
                printf("\n");
        }


getch();
return 0;
 }
```