

1. Write a function to calculate length of the string

```
#include <stdio.h>
int lengthStr(char[]);
int main()
{
    char a[40];
    int size;
    printf("Enter any string : ");
    fgets(a, 40, stdin);
    size = lengthStr(a);
    printf("Length of string : %d", size);
    return 0;
}

// below function is calculate length of string
int lengthStr(char arr[])
{
    int i;
    for (i = 0; arr[i]; i++)
        ;
    return (i - 1);
}

=====
Output:
Enter any string : Shekh Akhtar
Length of string : 12
```

2. Write a function to reverse a string.

```
#include <stdio.h>
void reverseStr(char []);
int main()
{
    char a[30];
    printf("Enter any string : ");
    fgets(a, 30, stdin);
    reverseStr(a);

    return 0;
}

void reverseStr(char x[])
{
    int i, length, temp;
    for (i = 0; x[i]; i++)
        ;
    length = i - 2;
    for (i = 0; i < length; i++)
    {
        temp = x[i];
        x[i] = x[length];
        x[length] = temp;
        length--;
    }
    printf("Reversed string : %s", x);
}

=====
Output:
Enter any string : apple
Reversed string : elppa
```

3. Write a function to compare two strings.

```

#include <stdio.h>
void strCmp(char[], char[]);
int main()
{
    char a[30], b[30], result;
    printf("Enter first string : ");
    fgets(a, 30, stdin);
    printf("Enter second string : ");
    fgets(b, 30, stdin);
    strCmp(a, b);
    return 0;
}
void strCmp(char x[], char y[])
{
    int i = 0, temp = 0;
    while ((x[i] != '\0') || (y[i] != '\0'))
    {
        if (x[i] != y[i])
        {
            temp = 1;
            break;
        }
        i++;
    }
    if(temp == 0)
        printf("Both string are equal");
    else
        printf("Both string are not equal");
}

```

Output:

```

Enter first string : computer
Enter second string : computer
Both string are equal

```

4. Write a function to transform string into uppercase

```

#include<stdio.h>
void upperCase(char[]);
int main()
{
    char a[30];
    printf("Enter any string in lowercase : ");
    fgets(a, 30, stdin);
    upperCase(a);
    return 0;
}
void upperCase(char x[])
{
    int i, length;
    for (i = 0; x[i]; i++)
        ;
    length = i - 1;
    for (i = 0; i < length; i++)
    {
        if (x[i] == 32)
            printf(" ");
        printf("%c", x[i] - 32);
    }
}

```

Output:

```

Enter any string in lowercase : shekh akhtar quraishi
Uppercase : SHEKH AKHTAR QURAISHI

```

5. Write a function to transform a string into lowercase

```
#include<stdio.h>
void loweCase(char[]);
int main()
{
    char a[30];
    printf("Enter any string in upperCase : ");
    fgets(a, 30, stdin);
    loweCase(a);
    return 0;
}

void loweCase(char x[])
{
    int i, length;
    for (i = 0; x[i]; i++)
        ;
    length = i - 1;
    printf("loweCase : ");
    for (i = 0; i < length; i++)
    {
        if (x[i] == 32)
        {
            printf(" ");
            continue;
        }
        printf("%c", x[i] + 32);
    }
}
```

=====

Output:

Enter any string in upperCase : SHEKH AKHTAR QURAISHI
loweCase : shekh akhtar quraishi

6. Write a function to check whether a given string is an alphanumeric string or not. (Alphanumeric string must contain at least one alphabet and one digit)

```
#include <stdio.h>
void alphaNumeric(char[]);
int main()
{
    char a[30];
    printf("Enter any string : ");
    fgets(a, 30, stdin);
    alphaNumeric(a);
    return 0;
}

void alphaNumeric(char x[])
{
    int i = 0, alpha = 0, numeric = 0;
    while (x[i])
    {
        if (x[i] >= '0' && x[i] <= '9')
            numeric++;
        if ((x[i] >= 'a' && x[i] <= 'z') || (x[i] >= 'A' && x[i] <= 'Z'))
            alpha++;
        i++;
    }
    if (numeric > 0 && alpha > 0)
        printf("Alphanumeric string");
    else
        printf("Not alphanumeric string");
}
```

```

}
=====
Output:
Enter any string : Akhtar786
Alphanumeric string

```

7. Write a function to check whether a given string is palindrome or not.

```

#include <stdio.h>
#include <string.h>
void reverseStr(char[], char[]); // function declearation for reverse string
void strCmp(char[], char[]);     // function declearation for compare string

int main()
{
    char a[30], b[30];
    printf("Enter any string : ");
    fgets(a, 30, stdin); // data input in array
    reverseStr(a, b);    // calling function to reverse string

    return 0;
}

// below function for reverse string
void reverseStr(char x[], char y[])
{
    int i, length, temp;
    strcpy(y, x); // copy one array to another array
    for (i = 0; x[i]; i++) // this loop is for calculating length
        ;
    length = i - 2;
    for (i = 0; i < length; i++) // this loop for index data change
    {
        temp = x[i];
        x[i] = x[length];
        x[length] = temp;
        length--;
    }
    strCmp(x, y); // calling function for compare string
}

// below function for compare string
void strCmp(char u[], char v[])
{
    int i = 0, temp = 0;
    while ((u[i] != '\0') || (v[i] != '\0'))
    {
        if (u[i] != v[i])
        {
            temp = 1;
            break;
        }
        i++;
    }
    if (temp == 0)
        printf("Given string is palindrome");
    else
        printf("Given string is not palindrome");
}
=====
Output:
Enter any string : naman
Given string is palindrome

```

8. Write a function to count words in a given string

```
#include <stdio.h>
#include <string.h>
int countWord(char[]);
int main()
{
    char a[50];
    int result;
    printf("Enter any string : ");
    fgets(a, 50, stdin);
    printf("Number of words in given string is %d", countWord(a));
    return 0;
}

int countWord(char x[])
{
    int i = 0, count = 0;
    while (x[i])
    {
        if ((x[i] == ' ' && x[i + 1] != ' ') || x[i] == 10)
            count++;
        i++;
    }
    return (count);
}

=====
Output:
Enter any string : My name is Shekh Akhtar
Number of words in given string is 5
```

9. Write a function to reverse a string word wise. (For example if the given string is “Mysirg Education Services” then the resulting string should be “Services Education Mysirg”)

```
#include <stdio.h>
#include <string.h>
void swap(char [], int, int);

int main()
{
    char a[100];
    int i = 0, start = 0, end = 0, flag = 0;
    printf("Enter any string : ");
    gets(a);
    while (a[i] != '\0')
    {
        while (a[i] != ' ')
        {
            if (a[i] == '\0')
            {
                flag = 1;
                break;
            }
            end++;
            i++;
        }
        swap(a, start, end - 1);
        if (flag == 1)
            break;
        end++;
        start = end;
        i++;
    }
    swap(a, 0, i - 1);
    printf("%s", a);
}
```

```

        return 0;
    }

void swap(char a[], int i, int j)
{
    char temp;
    while (i <= j)
    {
        temp = a[i];
        a[i] = a[j];
        a[j] = temp;
        i++;
        j--;
    }
}

=====
Output:
Enter any string : My name is Shekh Akhtar
Akhtar Shekh is name My

```

10. Write a function to find the repeated character in a given string.

```

#include <stdio.h>
void repeatedCharacter(char[], char[]);
int main()
{
    char a[50], b[255] = {0};
    int i;

    printf("Enter any string : ");
    fgets(a, 50, stdin);

    repeatedCharacter(a, b);

    return 0;
}

void repeatedCharacter(char x[], char y[])
{
    int c = 0, count = 0, i;
    char temp;
    for (i = 0; x[i]; i++)
    {
        if(x[i] == 32 || x[i] == 10)
            continue;
        c++;
        temp = x[i];
        y[temp] = y[temp] + 1;
    }
    printf("The frequency of each element of an array are follows :\n");
    for (i = 0; i < 255; i++)
    {
        if (y[i] > 1)
        {
            count++;
            printf("%c ---> %d\n", i, y[i]);
            if (count == c)
                break;
        }
    }
}

=====
Output:
Enter any string : shekh akhtar quraishi
The repeated character in a given string are follows :

```

```
a ---> 3  
h ---> 4  
i ---> 2  
k ---> 2  
r ---> 2  
s ---> 2
```