Assignment - 17 A Job Ready Bootcamp in C++, DSA and IOT MySirG

String Basics in C Language

1. Write a program to calculate the length of the string. (without using built-in method)

#include <stdio.h>

int main()

{

char str[] = "Sachin";

int i;

// Count Length of String

for(i=0; str[i]; i++);

printf("\nLength of String: %d",i);

// We Use Built-in method - strlen();

return 0;

}

2. Write a program to count the occurrence of a given character in a given string.

#include <stdio.h>

int main()

{

char str[] = "Sachin Payasi";

char ch;

int countOcc = 0;

printf("Enter Character: - ");

scanf("%c", &ch);

for (int i = 0; str[i]; i++)

if (str[i] == ch)

countOcc++;

printf("\nOccurence of '%c' Character in \"%s\" string is: %d", ch, str, countOcc);

return 0;

}

3. Write a program to count vowels in a given string

#include <stdio.h>

int main()

{

char str[100];

int countVowel = 0;

printf("Enter String: ");

fgets(str, 100, stdin);

for (int i = 0; str[i]; i++)

if (str[i] == 'a' || str[i] == 'e' || str[i] == 'i' || str[i] == 'o' || str[i] == 'u' || str[i] == 'A' || str[i] == 'E' || str[i] == 'I' || str[i] == 'O' || str[i] == 'U')

countVowel++;

printf("\nGiven string total vowel is: %d", countVowel);

return 0;

}

4. Write a program to convert a given string into uppercase

#include <stdio.h>

#include <string.h>

int main()

{

char str[100];

printf("Enter String: ");

fgets(str, 100, stdin);

for (int i = 0; str[i]; i++)

if (str[i] >= 'a' && str[i] <= 'z')

str[i] = str[i] - 32;

printf("Convert string in uppercase: %s", str);

/\*

using Build-in Method

printf("Convert string in uppercase: %s",strupr(str));

\*/

return 0;

}

5. Write a program to convert a given string into lowercase

#include <stdio.h>

#include <string.h>

int main()

{

char str[100];

printf("Enter String: ");

fgets(str, 100, stdin);

for (int i = 0; str[i]; i++)

if (str[i] >= 'A' && str[i] <= 'Z')

str[i] = str[i] + 32;

printf("Convert string in lowercase: %s", str);

/\*

using Build-in Method

printf("Convert string in uppercase: %s",strlwr(str));

\*/

return 0;

}

6. Write a program to reverse a string.

#include <stdio.h>

int main()

{

char str[100];

printf("Enter String: ");

fgets(str, 100, stdin);

int alphabets = 0, digit = 0, specialCharacter = 0;

for (int i = 0; str[i]; i++)

{

if (str[i] >= '0' && str[i] <= '9')

digit++;

else if ((str[i] >= 'a' && str[i] <= 'z') || (str[i] >= 'A' && str[i] <= 'Z'))

alphabets++;

else

specialCharacter++;

}

printf("\nTotal no. of Digit is %d\nTotal no. of Alphabets is: %d\nTotal no. of Special Character(consider null character) is: %d", digit, alphabets, specialCharacter);

return 0;

}

7. Write a program in C to count the total number of alphabets, digits and special

characters in a string.

#include <stdio.h>

int main()

{

char str[] = "Sachin Kumar Payasi";

char ch;

int countOcc = 0;

printf("Enter Character: - ");

scanf("%c", &ch);

for (int i = 0; str[i]; i++)

if (str[i] == ch)

countOcc++;

printf("\nOccurence of '%c' Character in \"%s\" string is: %d", ch, str, countOcc);

return 0;

}

8. Write a program in C to copy one string to another string.

#include <stdio.h>

int main()

{

char str[100], copyString[100];

printf("Enter string: ");

fgets(str, 100, stdin);

for (int i = 0; str[i]; i++)

copyString[i] = str[i];

printf("\nCopy string: %s", copyString);

/\*

strcpy(copyArray,str);

\*/

return 0;

}

9. Write a C program to sort a string array in ascending order.

#include <stdio.h>

int main()

{

char str[100];

printf("Enter String: ");

fgets(str, 100, stdin);

// sort

for (int i = 0; str[i]; i++)

{

for (int j = 0; str[j]; j++)

{

if (str[i] < str[j])

{

int temp = str[i];

str[i] = str[j];

str[j] = temp;

}

}

}

printf("Sorted String: %s",str);

return 0;

}

10. Write a program in C to Find the Frequency of Characters.

#include <stdio.h>

int main()

{

char str[100];

printf("Enter String: ");

fgets(str, 100, stdin);

// sort

for (int i = 0; str[i]; i++)

{

for (int j = 0; str[j]; j++)

{

if (str[i] < str[j])

{

int temp = str[i];

str[i] = str[j];

str[j] = temp;

}

}

}

// Count Freq

int count, i = 0, j;

while (str[i])

{

count = 0;

for (j = i; str[j]; j++)

{

if (str[i] == str[j])

count++;

else

break;

}

printf("\n%c Character Frequency is: %d", str[i], count);

i = j;

}

return 0;

}