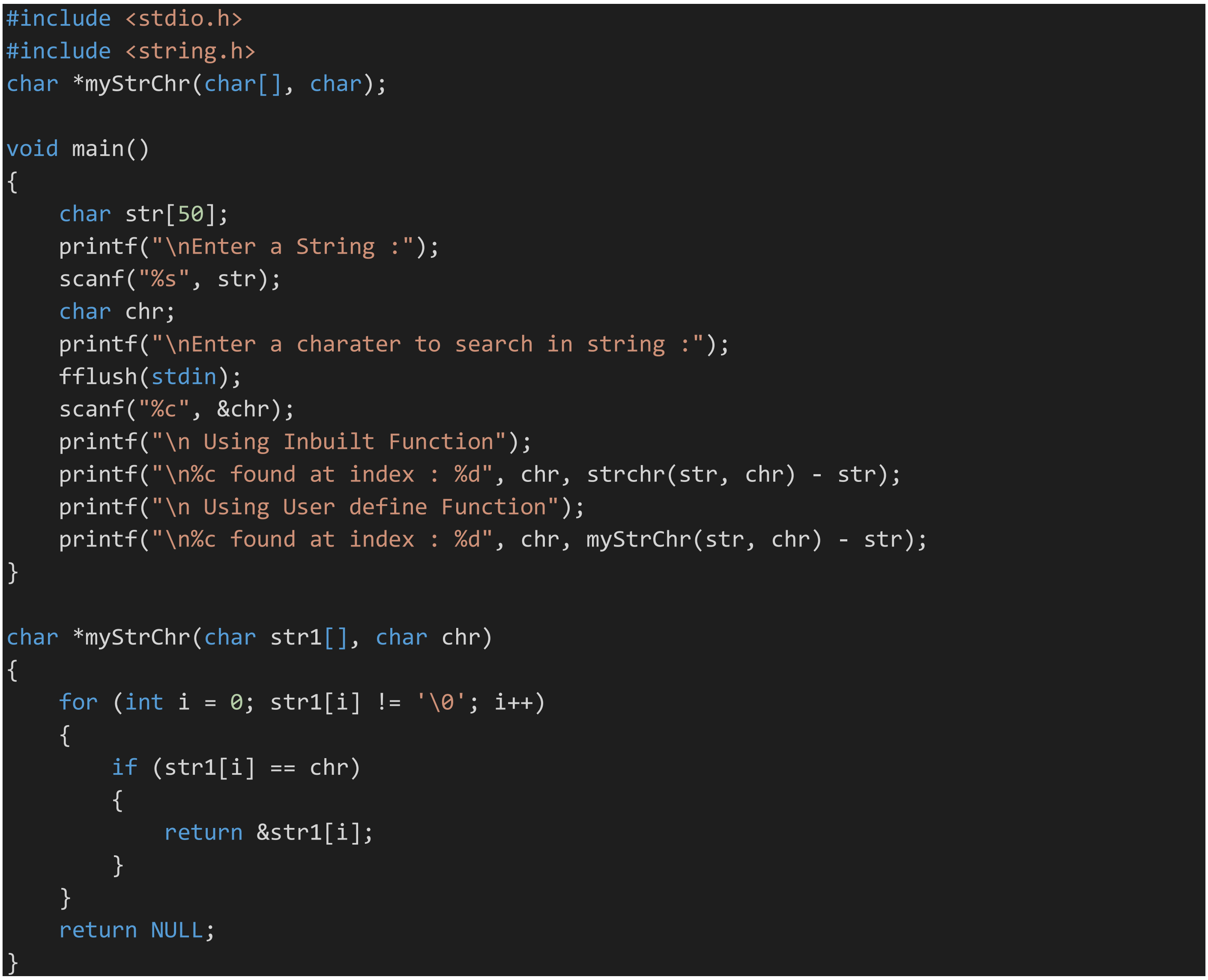
Assignment 11

1. Write a program to scan string from user then scan a single character and search it in a accepted string.



```c
#include <stdio.h>
#include <string.h>
char *myStrChr(char[], char);

void main()
{
    char str[50];
    printf("\nEnter a String :");
    scanf("%s", str);
    char chr;
    printf("\nEnter a charater to search in string :");
    fflush(stdin);
    scanf("%c", &chr);
    printf("\n Using Inbuilt Function");
    printf("\n%c found at index : %d", chr, strchr(str, chr) - str);
    printf("\n Using User define Function");
    printf("\n%c found at index : %d", chr, myStrChr(str, chr) - str);
}

char *myStrChr(char str1[], char chr)
{
    for (int i = 0; str1[i] != '\0'; i++)
    {
        if (str1[i] == chr)
        {
            return &str1[i];
        }
    }
    return NULL;
}
```

Output:

```
PS C:\Code>  & 'c:\Users\bhagv\.vscode\.... \TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

Enter a String :Bhagvat

Enter a charater to search in string :a

 Using Inbuilt Function
a found at index : 2
 Using User define Function
a found at index : 2
PS C:\Code>
```

2. WAP Replace all Occurrences of ‘a’ with $ in a String

```
#include <stdio.h>
#include <string.h>
char *replaceA(char[]);

void main()
{
    char str[50];
    printf("\nEnter a String :");
    scanf("%s", str);
    printf("\nNew STring:%s", replaceA(str));
}
char *replaceA(char str[])
{
    for (int i = 0; str[i] != '\0'; i++)
    {
        if (str[i] == 'a')
        {
            str[i] = '$';
        }
    }
    return str;
}
```

Output:

```
PS C:\Code>  & 'c:\Users\bhagv\.vscode…. \TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

Enter a String :Bhagvat

New STring:Bh$gv$t
PS C:\Code>
```

3. WAP to Remove the nth Index Character from a Non-Empty String

```
#include <stdio.h>
char *removeN(char[], int);
void main()
{
    char str[50];
    int n;
    printf("\nEnter A string :");
    scanf("%s", str);
    printf("\nEnter The of element you want to delete :");
    scanf("%d", &n);
    printf("\nResult :%s", removeN(str, n));
}
char *removeN(char str[], int n)
{    for (int i = n; str[i] != '\0'; i++)
    {
        str[i] = str[i + 1];
    }
    return str;
}
```

Output:

```
PS C:\Code>  & 'c:\Users\bhagv\.vscode\...... \TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'
Enter A string :Bhagvat
Enter The of element you want to delete :5
Result :Bhagvt
PS C:\Code>
```

4. WAP to Form a New String where the First Character and the Last Character have been Exchanged

```c
#include <stdio.h>
char *swapFL(char[]);
void main()
{
    char str[50];
    int n;
    printf("\nEnter A string :");
    scanf("%s", str);
    printf("\nResult :%s", swapFL(str));
}
char *swapFL(char str[])
{
    int len = strlen(str) - 1;
    char temp = str[0];
    str[0] = str[len];
    str[len] = temp;
    return str;
}
```

Output:

```
PS C:\Code>  & 'c:\Users\bhagv\.vscode\ \TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

Enter A string :Bhagvat

Result :thagvaB
PS C:\Code>
```

5. WAP to Count the Number of Vowels in a String

```c
#include <stdio.h>
int noOfVowelsInSTR(char[]);
void main()
{
    char str[50];
    printf("\nEnter A string :");
    gets(str);
    printf("\nNo Of Vowels in string are :%d", noOfVowelsInSTR(str));
}
int noOfVowelsInSTR(char str[])
{
    int cnt = 0, i = 0;
    while (str[i] != '\0')
    {
        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')
        {
            cnt++;
        }
        i++;
    }

    return cnt;
}
```

Output:
PS C:\Code> & 'c:\Users\bhagv\.vscode\..... \TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

Enter A string :Hello How are you

No Of Vowels in string are :7
PS C:\Code>

6. WAP to Take in a String and Replace Every Blank Space with special symbol.

```
#include <stdio.h>
#include <string.h>
char *spaceReplaceHashtag(char[]);

void main()
{
    char str[50];
    printf("\nEnter a String :");
    gets(str);
    printf("\nNew STring:%s", spaceReplaceHashtag(str));
}
char *spaceReplaceHashtag(char str[])
{
    for (int i = 0; str[i] != '\0'; i++)
    {
        if (str[i] == ' ')
        {
            str[i] = '#';
        }
    }
    return str;
}
```

Output : PS C:\Code> & 'c:\Users\bhagv\.vscode\.... \TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

Enter a String :Helo bro how are you

New STring:Helo#bro#how#are#you#
PS C:\Code>

7. WAP to Remove the Characters of Odd Index Values in a String

```
#include <stdio.h>
char *removeOddIndexValues(char[]);
void main()
{
    char str[50];
    int n;
```

```c
    printf("\nEnter A string :");
    gets(str);
    printf("\nResult :%s", removeOddIndexValues(str));
}
char *removeOddIndexValues(char str[])
{
    for (int i = 0; str[i] != '\0'; i++)
    {
        if (i % 2 != 0)
        {
            str[i] = ' ';
        }
    }

    return str;
}
```

Output :

```
PS C:\Code>  & 'c:\Users\bhagv\.vscode\..... \TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

Enter A string :Hello I AM Bhagvat

Result :H l o I A   h g a
PS C:\Code>
```

8. WAP to Calculate the Number of Words Present in a String

```c
#include <stdio.h>
int noOfWords(char[]);
void main()
{
    char str[50];
    int n;
    printf("\nEnter A string :");
    gets(str);
    printf("\nNo of words in string are: %d", noOfWords(str));
}
int noOfWords(char str[])
{
    int cnt = 1;
    for (int i = 0; str[i] != '\0'; i++)
    {
        if (str[i] == ' ')
        {
            cnt++;
            // printf("\n%d Count ", cnt);
        }
    }
    // printf("\n%d Count ", cnt);
    return cnt;
}
```

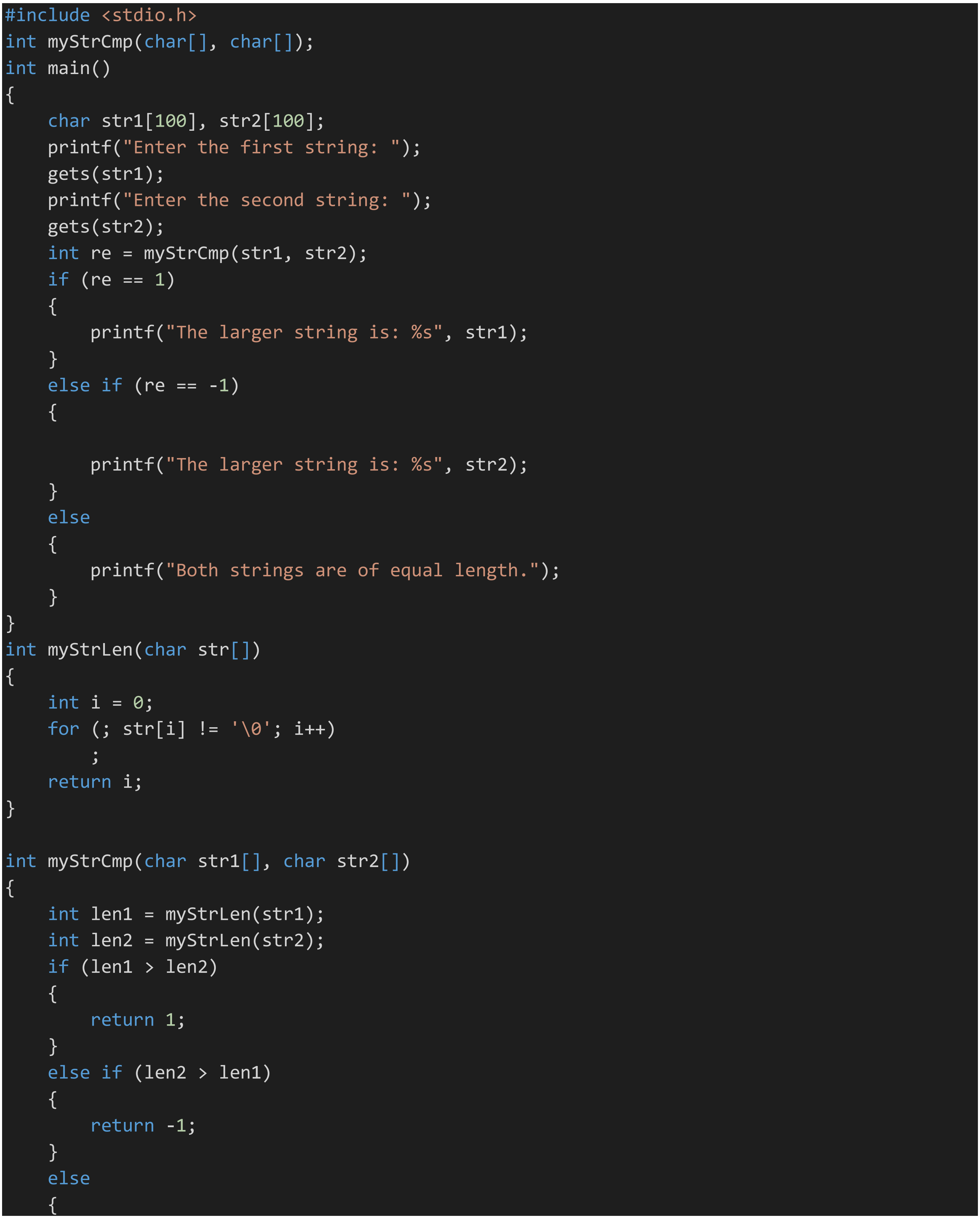
Output :

```
PS C:\Code>  & 'c:\Users\bhagv\.vscode\ \TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'
```

```
Enter A string :Hey Bro how are you ? Im here to help you!

No of words in string are: 11
PS C:\Code>
```

9. WAP to Take in Two Strings and Display the Larger String without Using Built-in Functions



```c
#include <stdio.h>
int myStrCmp(char[], char[]);
int main()
{
    char str1[100], str2[100];
    printf("Enter the first string: ");
    gets(str1);
    printf("Enter the second string: ");
    gets(str2);
    int re = myStrCmp(str1, str2);
    if (re == 1)
    {
        printf("The larger string is: %s", str1);
    }
    else if (re == -1)
    {

        printf("The larger string is: %s", str2);
    }
    else
    {
        printf("Both strings are of equal length.");
    }
}
int myStrLen(char str[])
{
    int i = 0;
    for (; str[i] != '\0'; i++)
        ;
    return i;
}

int myStrCmp(char str1[], char str2[])
{
    int len1 = myStrLen(str1);
    int len2 = myStrLen(str2);
    if (len1 > len2)
    {
        return 1;
    }
    else if (len2 > len1)
    {
        return -1;
    }
    else
    {
        return 0;
    }
}
```

Output:

```
PS C:\Code>  & 'c:\Users\bhagv\.vscode\..\TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'
Enter the first string: Bhagvat
Enter the second string: Bhagvat
Both strings are of equal length.
PS C:\Code>  & 'c:\Users\bhagv\.vscode\extensions\.... \TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'
Enter the first string: hello
Enter the second string: hi
The larger string is: hello
PS C:\Code>
```

10. Write a program to check the string is palindrome or not.

```c
#include <stdio.h>
#include <stdlib.h>
char *strDup(char[]);
int myStrLen(char[]);
char *myStrRev(char[]);
int myStrCmp(char[], char[]);

int main()
{
    char str1[100], str2[100];
    printf("Enter the string: ");
    gets(str1);

    if (myStrCmp(strDup(str1), myStrRev(str1)))
    {
        printf("\nString is not Palindrome.!!");
    }
    else
    {
        printf("\nString is Palindrome.!!");
    }
}

char *strDup(char str[])
{
    int len = myStrLen(str);
    int i;
    char *dup = (char *)malloc(sizeof(char) * len);
    for (i = 0; i < len; i++)
    {
        dup[i] = str[i];
    }
    dup[i] = '\0';

    return dup;
}
int myStrLen(char str[])
{
    int i = 0;
    for (; str[i] != '\0'; i++)
        ;
    return i;
}

char *myStrRev(char str[])
{
    int len = myStrLen(str);
    char *temp = (char *)malloc(sizeof(char) * len);

    int j = 0;
    for (int i = len - 1; i >= 0; i--, j++)
    {
        temp[j] = str[i];
    }
    temp[j] = '\0';
    return temp;
}

int myStrCmp(char str1[], char str2[])
{
    int i = 0;

    while (str1[i] != '\0' && str2[i] != '\0')
    {
        if (str1[i] != str2[i])
        {
            return str1[i] - str2[i];
        }
        i++;
    }
    if (str1[i] == '\0' && str2[i] == '\0')
    {
        return 0;
    }
    else
    {
        return 1;
    }
}
```

Output :

```
PS C:\Code>  & 'c:\Users\bhagv\.vscode\.... \TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'
Enter the string: Bhagvat

String is not Palindrome.!!
PS C:\Code>  & 'c:\Users\bhagv\.vscode\... \TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'
Enter the string: naman

String is Palindrome.!!
PS C:\Code>
```