ASSIGNMENT 5 (7.08.2025)

1. Find length of a string without using strlen()

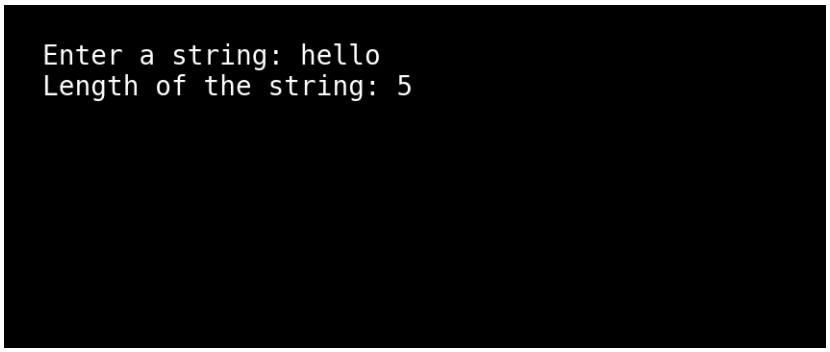
```
#include <stdio.h>
void main()
{
   char str[100];
   int i, length = 0;

   printf("Enter a string: ");
   gets(str);

   for(i = 0; str[i] != '\0'; i++)
      length++;

   printf("Length of the string: %d\n", length);
}
```

Sample Output Screenshot:



2. Copy one string to another

```
#include <stdio.h>
void main()
{
   char str1[100], str2[100];
   int i;

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

```
    for(i = 0; str1[i] != '\0'; i++)
        str2[i] = str1[i];
    str2[i] = '\0';

    printf("Copied string: %s\n", str2);
}
```

Sample Output Screenshot:

3. Concatenate two strings

```
#include <stdio.h>
void main()
{
    char str1[100], str2[100];
    int i, j;

    printf("Enter first string: ");
    gets(str1);
    printf("Enter second string: ");
    gets(str2);

    for(i = 0; str1[i] != '\0'; i++);
    for(j = 0; str2[j] != '\0'; j++, i++)
        str1[i] = str2[j];
    str1[i] = '\0';

    printf("Concatenated string: %s\n", str1);
}
```

Sample Output Screenshot:

```
Enter first string: hello
Enter second string: world
Concatenated string: helloworld
```

Compare two strings

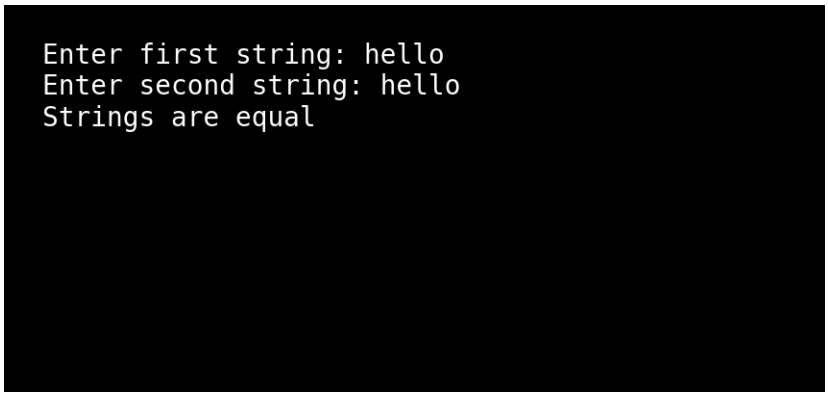
```
#include <stdio.h>
void main()
{
   char str1[100], str2[100];
   int i, flag = 0;

   printf("Enter first string: ");
   gets(str1);
   printf("Enter second string: ");
   gets(str2);

   for(i = 0; str1[i] != '\0' || str2[i] != '\0'; i++)
   {
      if(str1[i] != str2[i])
      {
         flag = 1;
         break;
      }
   }

   if(flag == 0)
      printf("Strings are equal\n");
   else
      printf("Strings are not equal\n");
}
```

Sample Output Screenshot:



4. Count vowels and consonants in a string

```
#include <stdio.h>
void main()
{
   char str[100];
   int i, vowels = 0, consonants = 0;

   printf("Enter a string: ");
   gets(str);

   for(i = 0; str[i] != '\0'; i++)
   {
      if((str[i] >= 'a' && str[i] <= 'z') || (str[i] >= 'A' && str[i] <= 'Z'))
      {
         char ch = (str[i] >= 'A' && str[i] <= 'Z') ? str[i] + 32 : str[i];
         if(ch=='a'||ch=='e'||ch=='i'||ch=='o'||ch=='u')
            vowels++;
         else
            consonants++;
      }
   }

   printf("Vowels: %d\nConsonants: %d\n", vowels, consonants);
}
```

Sample Output Screenshot:

5. Convert lowercase to uppercase and vice versa

```
#include <stdio.h>
void main()
{
   char str[100];
   int i;

   printf("Enter a string: ");
   gets(str);

   for(i = 0; str[i] != '\0'; i++)
   {
      if(str[i] >= 'a' && str[i] <= 'z')
         str[i] -= 32;
      else if(str[i] >= 'A' && str[i] <= 'Z')
         str[i] += 32;
   }

   printf("Toggled case string: %s\n", str);
}
```

Sample Output Screenshot:

6. Check if a string is palindrome

```
#include <stdio.h>
void main()
{
   char str[100];
   int i, length = 0, flag = 0;

   printf("Enter a string: ");
   gets(str);

   for(i = 0; str[i] != '\0'; i++)
      length++;

   for(i = 0; i < length / 2; i++)
   {
      if(str[i] != str[length - i - 1])
      {
         flag = 1;
         break;
      }
   }

   if(flag == 0)
      printf("String is palindrome\n");
   else
      printf("String is not palindrome\n");
}
```

Sample Output Screenshot:

```
Enter a string: madam
String is palindrome
```

7. Reverse a string

```
#include <stdio.h>
void main()
{
   char str[100], rev[100];
   int i, j, length = 0;

   printf("Enter a string: ");
   gets(str);

   for(i = 0; str[i] != '\0'; i++)
      length++;

   for(i = length - 1, j = 0; i >= 0; i--, j++)
      rev[j] = str[i];
   rev[j] = '\0';

   printf("Reversed string: %s\n", rev);
}
```

Sample Output Screenshot:

```
Enter a string: hello
Reversed string: olleh
```

8. Count words in a string

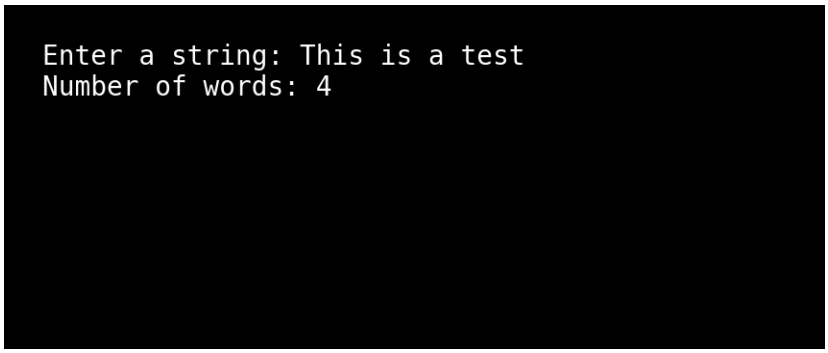
```
#include <stdio.h>
void main()
{
   char str[200];
   int i, words = 1;

   printf("Enter a string: ");
   gets(str);

   for(i = 0; str[i] != '\0'; i++)
   {
      if(str[i] == ' ' && str[i+1] != ' ' && str[i+1] != '\0')
         words++;
   }

   printf("Number of words: %d\n", words);
}
```

Sample Output Screenshot:



9. Find the frequency of each character in a string

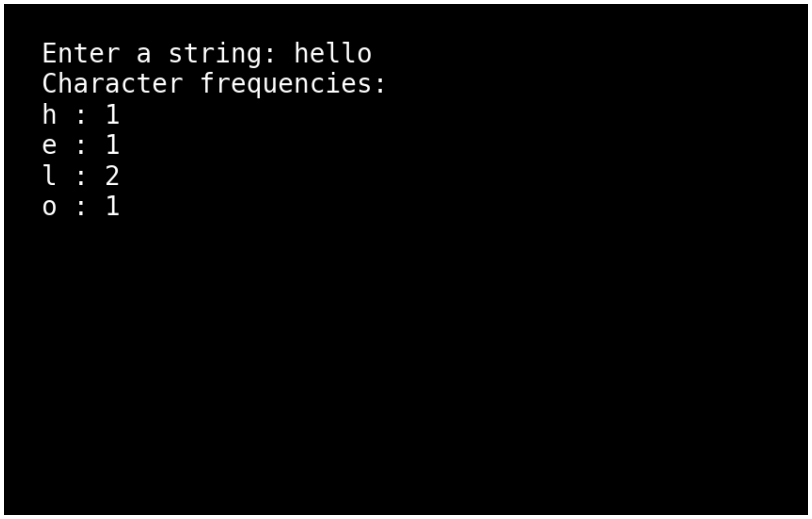
```
#include <stdio.h>
void main()
{
   char str[200];
   int freq[256] = {0}, i;

   printf("Enter a string: ");
   gets(str);
```

```
    for(i = 0; str[i] != '\0'; i++)
        freq[(unsigned char)str[i]]++;

    printf("Character frequencies:\n");
    for(i = 0; i < 256; i++)
    {
        if(freq[i] != 0)
            printf("%c : %d\n", i, freq[i]);
    }
}
```

Sample Output Screenshot:



10. Write a program to compare two strings

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

   for(i = 0; str1[i] != '\0' || str2[i] != '\0'; i++)
   {
      if(str1[i] != str2[i])
      {
         flag = 1;
         break;
      }
   }

   if(flag == 0)
      printf("Strings are equal\n");
   else
      printf("Strings are not equal\n");
}
```

```
Enter first string: hello
Enter second string: hello
Strings are equal
```