Name: Jacob V Sanoj	**SRN: PES1UG20EC083**	**Section: F1**
	Date: 8/06/2021	**Week Number: 5**

1

1)Write functions to

a) Reverse a string.

b) Check for equality of strings.

Input1:

Enter string

abbcbba

Output1:

```
Reversed string is = abbcbba
Given string is abbcbba is palindrome
```

Input2:

Enter string

hi

Output2:

```
Reversed string is = ih
Given string is hi is not palindrome
```

Program:

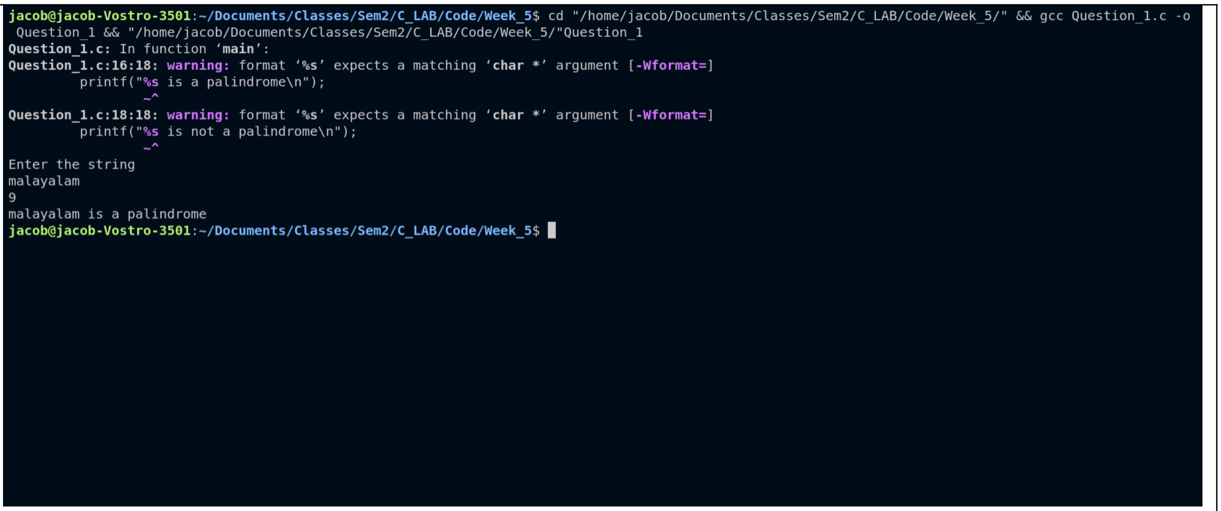
Client1.c

```
#include <stdio.h>

#include "Question1_palindrome.c"

int main()

{

char s[20];

char rev[20];


printf("Enter the string\n");

scanf("%s", s);
```

```
reverse_string(s, rev);


int r = check_equal(s, rev);
if (r == 0)
printf("%s is a palindrome\n");
else
printf("%s is not a palindrome\n");
}


Server1.c
#include<stdio.h>
void reverse_string(const char *s1,char *s2)
{
        int len=0;
        while(*s1!='\0')
        {
                ++s1;
                ++len;
        }
        printf("%d",len);
        while(len>0)
        {
                *s2++=*(--s1);
                len--;
        }
        *s2='\0';
}
int check_equal(const char*s1,const char *s2)
{
        while(*s1 && *s2 && *s1==*s2)
        {
                s1++;
                s2++;
        }
        return *s1-*s2;
}
1.h
void reverse_string(const char *s1,char *s2);
int check_equal(const char*s1,const char *s2);
#include <stdio.h>

void reverse_string(const char *s1, char *s2)
{
int len = 0;
while (*s1 != '\0')
{
++s1;
++len;
}
printf("%d\n", len);
```

```
while (len > 0)
{
*s2++ = *(--s1);
len--;
}
*s2 = '\0';
}
int check_equal(const char *s1, const char *s2)
{
while (*s1 && *s2 && *s1 == *s2)
{
s1++;
s2++;
}
return *s1 - *s2;
}
```

Output Screenshot:



```
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code/Week_5$ cd "/home/jacob/Documents/Classes/Sem2/C_LAB/Code/Week_5/" && gcc Question_1.c -o
 Question_1 && "/home/jacob/Documents/Classes/Sem2/C_LAB/Code/Week_5/"Question_1
Question_1.c: In function ‘main’:
Question_1.c:16:18: warning: format ‘%s’ expects a matching ‘char *’ argument [-Wformat=]
         printf("%s is a palindrome\n");
                 ~^
Question_1.c:18:18: warning: format ‘%s’ expects a matching ‘char *’ argument [-Wformat=]
         printf("%s is not a palindrome\n");
                 ~^
Enter the string
malayalam
9
malayalam is a palindrome
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code/Week_5$ 
```

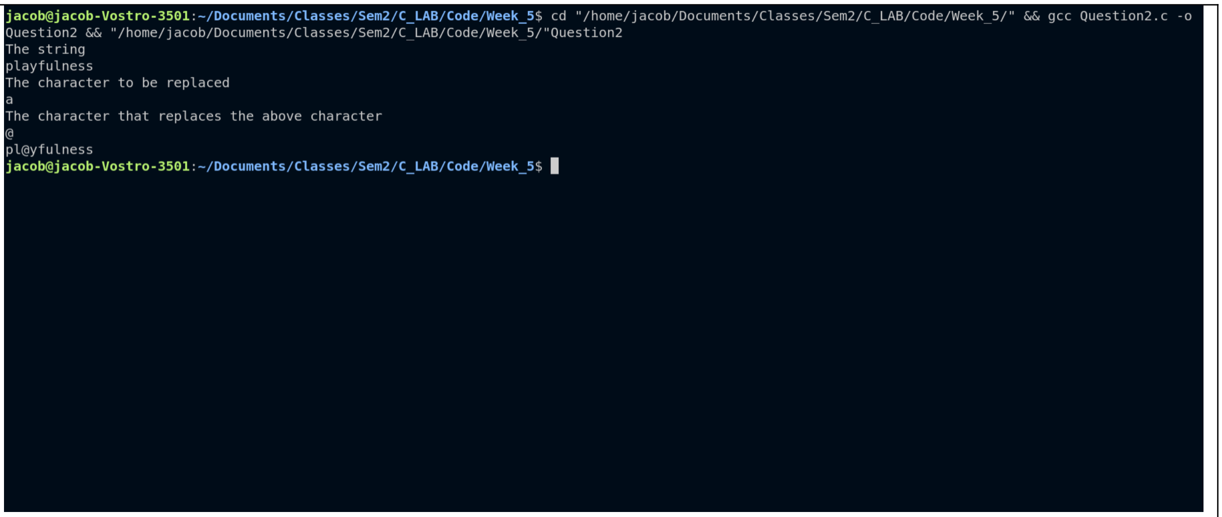
2 Write function to find all occurrences of a character in a string and use this function to replace all occurences of a character by specific character.

Input1:
Enter the string : Welcome to C programming
Enter a character to replace: o
Enter character to replace with r : @
Output1:
Before replace: Welcome to C programming
After replace: Welc@me t@ C pr@gramming

Program:

```
#include <stdio.h>

#include <stdlib.h>

int main()

{

char character;

char element;
char a[20];


printf("Enter the string\n");
scanf("%s", a);
printf("Enter the character to be replaced\n");
scanf("%s", &element);
printf("Enter the character that replaces the above character\n");
scanf("%s", &character);
for (int i = 0; a[i] != '\0'; i++)
{
if (a[i] == element)
{
a[i] = character;
}
}
printf("%s\n", a);
return 0;
}
```

Output Screenshot:



```
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code/Week_5$ cd "/home/jacob/Documents/Classes/Sem2/C_LAB/Code/Week_5/" && gcc Question2.c -o
Question2 && "/home/jacob/Documents/Classes/Sem2/C_LAB/Code/Week_5/"Question2
The string
playfulness
The character to be replaced
a
The character that replaces the above character
@
pl@yfulness
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code/Week_5$ 
```

3 Write a function to remove all repeated characters from a given string and display the string without duplicate characters.

Input 1:

Enter any string: hello world

Output 1:

String before removing duplicates: hello world

String after removing duplicates: helo wrd

Input 1:

Enter any string: programming in c

Output 1:

String before removing duplicates: programming in c

String after removing duplicates: progamin c

Program:

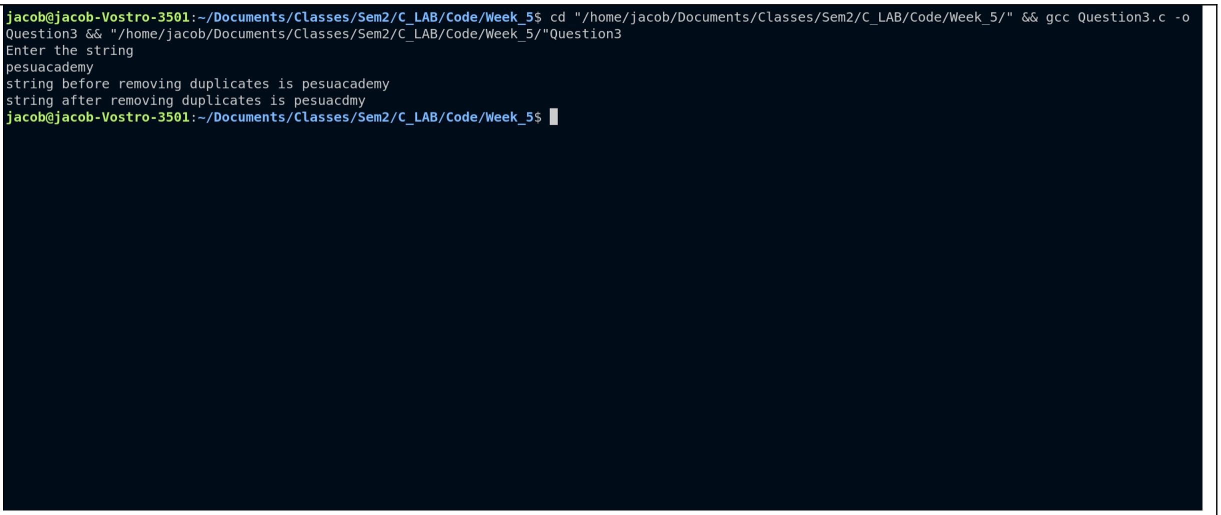
Client3.c

```
#include <stdio.h>

#include "Question3_duplicate.c"

int main()

{

char str[20];
printf("Enter the string\n");
scanf("%[^\n]s", str);
printf("string before removing duplicates is %s\n", str);
printf("string after removing duplicates is %s\n", str);
removeduplicates(str);
return 0;
}
```

Server3.c

```
#include <stdio.h>

void removeall(char *str, char remove, int index)
{
int i;
while (str[index] != '\0')
{
if (str[index] == remove)
{
i = index;
while (str[i] != '\0')
{
str[i] = str[i + 1];
i++;
}
}
else
index++;
}
}

void removeduplicates(char *str)
{
int i = 0;
while (str[i] != '\0')
{
removeall(str, str[i], i + 1);
i++;
}
}
```

Output Screenshot:



```
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code/Week_5$ cd "/home/jacob/Documents/Classes/Sem2/C_LAB/Code/Week_5/" && gcc Question3.c -o
Question3 && "/home/jacob/Documents/Classes/Sem2/C_LAB/Code/Week_5/"Question3
Enter the string
pesuacademy
string before removing duplicates is pesuacademy
string after removing duplicates is pesuacdmy
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code/Week_5$ 
```

4 Write function to Concatenate two strings and use this to concatenate n (i.e, say 2) strings.

Input 1:

Enter 1st string

pes

Enter 2nd string

university

Enter number of times u want to append

1

Output1:

Concatenated string is pesuniversity

Input2:

Enter 1st string

pes

Enter 2nd string

university

Enter number of times u want to append

2

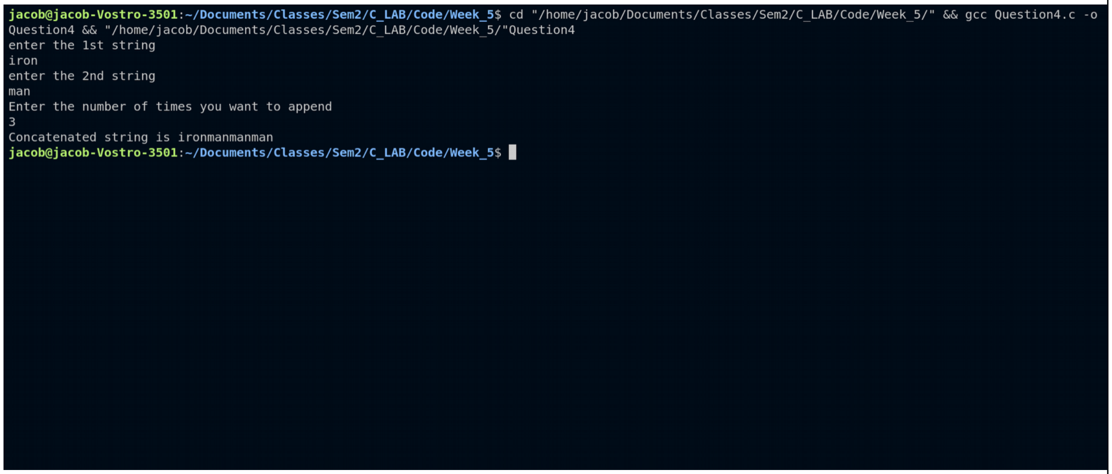
Output2:

Concatenated string is pesuniversityuniversity

Program:

```
#include <stdio.h>
#include "Question4_repeat.c"
int main()
{
char s1[100], s2[100];
int n;

printf("enter the 1st string\n");
scanf("%s", s1);

printf("enter the 2nd string\n");
scanf("%s", s2);

printf("Enter the number of times you want to append\n");
scanf("%d", &n);

printf("Concatenated string is %s\n", my_strncat(s1, s2, n));
return 0;
}

#include <stdio.h>

void my_strcat(char *d, const char *s)
{
while (*d)
{
d++;
}
while (*d++ = *s++);
}


char *my_strncat(char *d1, const char *s1, int n)
{
for (int i = 0; i < n; i++)
{
my_strcat(d1, s1);
}
return d1;
}
```

Output



```
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code/Week_5$ cd "/home/jacob/Documents/Classes/Sem2/C_LAB/Code/Week_5/" && gcc Question4.c -o
Question4 && "/home/jacob/Documents/Classes/Sem2/C_LAB/Code/Week_5/"Question4
enter the 1st string
iron
enter the 2nd string
man
Enter the number of times you want to append
3
Concatenated string is ironmanmanman
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code/Week_5$ 
```

Screenshot:

Practice Programs

1 Write a function to count the number of occurrences of a given character. Use this to find the number of occurrences of every character in a word.

Input:

```
pesit pes!
```

Output:

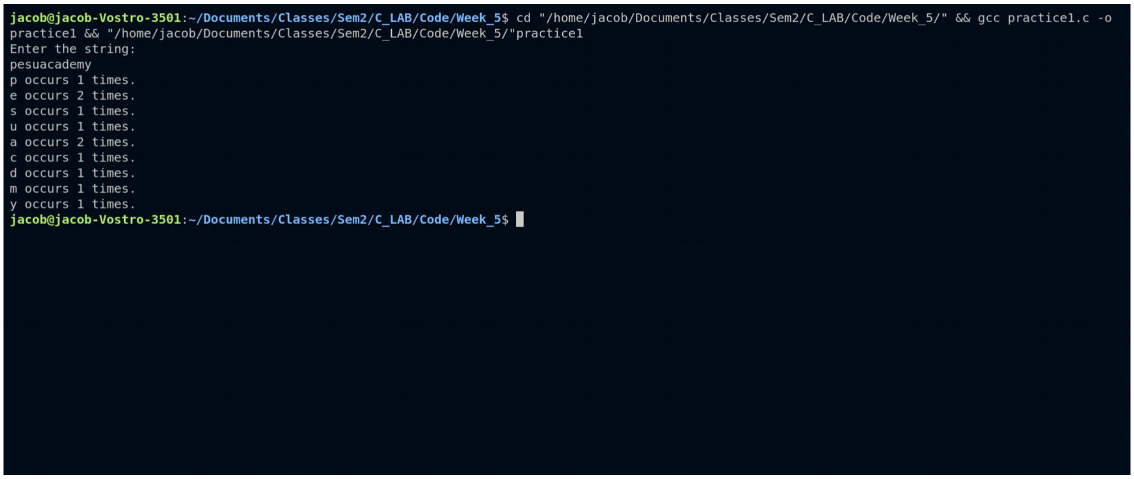
```
i occurs is 1 times
t occurs is 1 times
occurs is 1 times
p occurs is 2 times
e occurs is 2 times
s occurs is 2 times
! occurs is 1 times
```

Program:

```
#include <stdio.h>
#include "practice1_counting.c"


int main()
{
char s[20];
printf("Enter the string: \n");
scanf("%[^\n]s", s);
countchar(s);
return 0;
}


#include <stdio.h>
#include <string.h>
int countchar(char *s)
{
```

```
int i, j, count;
int len = strlen(s);
for (i = 0; i < len; i++)
{
count = 0;
for (j = 0; j < len; j++)
if (s[i] == s[j] && s[j] != '\0')
count++;
if (count > 1)
{
for (j = 0; j < len; j++)
if (s[i] == s[j] && i != j)
s[j] = '\0';
}
if (s[i] != '\0')
{
printf("%c occurs %d times.\n", s[i], count);
}
}
}
```

Output Screenshot:



```
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code/Week_5$ cd "/home/jacob/Documents/Classes/Sem2/C_LAB/Code/Week_5/" && gcc practice1.c -o
practice1 && "/home/jacob/Documents/Classes/Sem2/C_LAB/Code/Week_5/"practice1
Enter the string:
pesuacademy
p occurs 1 times.
e occurs 2 times.
s occurs 1 times.
u occurs 1 times.
a occurs 2 times.
c occurs 1 times.
d occurs 1 times.
m occurs 1 times.
y occurs 1 times.
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code/Week_5$ 
```

2 Write the function strend (s , t), which returns 1 if the string t occurs at the end of the string s, and zero otherwise.

Input1:

hello world!
world

Output 1:

0

Input2:

hello world! world
world

Output 2:

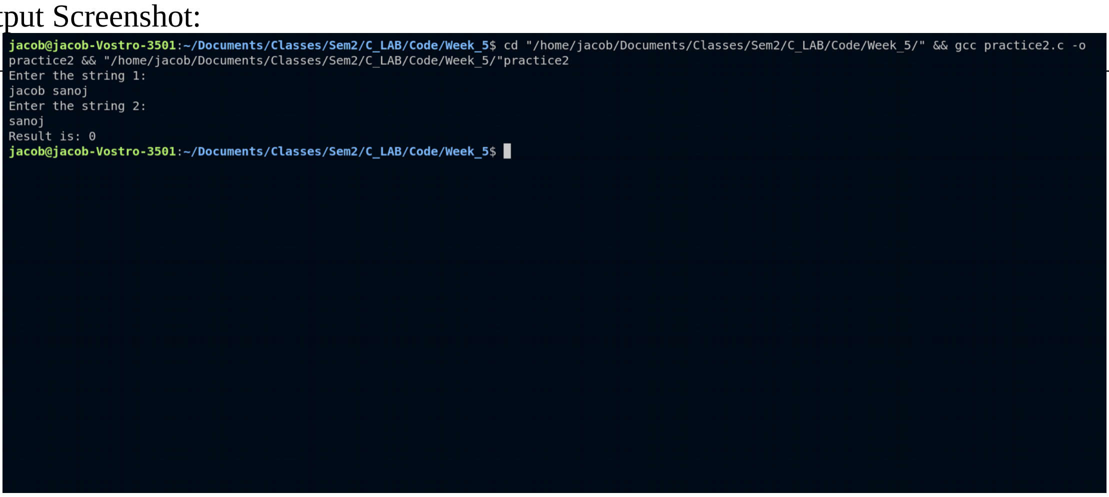
1

Program:

```
#include <stdio.h>

#include "practice2_tcheck.c"

int strend(char *s, char *t);
int main()
{
char s[50], t[50];
int result;
printf("Enter the string 1: \n");
scanf("%[^\n]s", s);
printf("Enter the string 2: \n");
scanf("%s", t);
result = strend(s, t);
printf("Result is: %d\n", result);
return 0;
}

#include <string.h>
int strend(char *s, char *t)
{
int i, j, len_s, len_t, res, count = 0, flag = 0;
len_s = strlen(s);
len_t = strlen(t);
for (i = len_s; i > 0; i--)
{
if (s[i] == ' ')
{
count++;
for (j = 0; j < len_t; j++)
{
if (s[i + 1] == t[j])
{
i++;
}
else
{
flag++;
}
}
res = i;
}
if (count > 0)
{
i = 0;
}
}
if (count > 0 && flag > 0 && res == len_s)

return 0;

else if (count > 0 && flag == 0 && res == len_s)

return 1;
```

```
else

return 0;


}
```

Output Screenshot:



```
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code/Week_5$ cd "/home/jacob/Documents/Classes/Sem2/C_LAB/Code/Week_5/" && gcc practice2.c -o
practice2 && "/home/jacob/Documents/Classes/Sem2/C_LAB/Code/Week_5/"practice2
Enter the string 1:
jacob sanoj
Enter the string 2:
sanoj
Result is: 0
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code/Week_5$ 
```