PRACTICAL No. 6

C PROGRAMMING

```
//a. Write a program to extract the portion of a character string and print the
//extracted part.

#include <stdio.h>

int main() {
   char str[100], sstr[100]; // Declare two character arrays to store the main string and substring
   int pos, l, c = 0; // Declare variables for position, length, and a counter

   printf("\nExtract a substring from a given string:\n"); // Display information about the task
   printf("-----------------------------------------\n");

   printf("Input the string : ");
   fgets(str, sizeof str, stdin); // Read a string from the standard input (keyboard)

   printf("Input the position to start extraction :");
   scanf("%d",&pos); // Read the starting position for substring extraction

   printf("Input the length of substring :");
   scanf("%d",&l); // Read the length of the substring

   // Extracting the substring
   while (c < l) {
      sstr[c] = str[pos + c - 1]; // Copy characters from the specified position into the substring
      c++;
```

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    }
    sstr[c] = '\0'; // Add null terminator to mark the end of the substring

    printf("The substring retrieved from the string is : \" %s\" \n\n", sstr); // Display the extracted substring

        return 0; // Return 0 to indicate successful execution of the program
}
```

//b. Write a program to find the given string is palindrome or not.

```
#include <stdio.h>
#include <string.h>

int main() {
    char string1[20];
    int i, length;
    int flag = 0;

    // Prompt the user for input
    printf("Enter a string: ");
    scanf("%s", string1);

    // Calculate the string length
    length = strlen(string1);

    // Compare characters from the start and end of the string
    // and stop if a mismatch is found or the middle of the string is reached.
    for (i = 0; i < length / 2; i++) {
```

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        if (string1[i] != string1[length - i - 1]) {
            flag = 1;
            break;
        }
    }

    // Output the result
    if (flag) {
        printf("%s is not a palindrome\n", string1);
    } else {
        printf("%s is a palindrome\n", string1);
    }

    return 0;
}



//c. Write a program to using strlen(), strcmp() function .

#include<stdio.h>
#include<string.h>
#include<stdlib.h>

int main()
{
        char str[20] ;
        char str1[20], str2[20];
        int result;

        //Using strlen() function
```

```
	printf("\nEnter the string : ");
	scanf("%s",str);

	int length;
	length = strlen(str);

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

	printf("_____");

	//clearing input taking error
	fflush(stdin);

	//Using strcmp() function
	printf("\nEnter first string : ");
	scanf("%s",&str1);

	printf("\nEnter second string : ");
	scanf("%s",&str2);

	// comparing strings str1 and str2
result = strcmp(str1, str2);
if(result==0)
{
	printf("\nThe given string is equal");
	}
	else
	{
		printf("\nThe given string is not equal");
	}
```

```
        return 0;
}
```