

PPS Assignment-II

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Implement the following string handling functions using User defined functions.

1)) strcmp() // compares two strings for equality

1.problem statement:

String comparison using user defined functions.

2. pseudo code/ flow chart:

start

Declare result , i

Input str1 and str2

For i=0; str1[i]!=0 && str[i]!=0

 If str1<str2

 Print("str1 is less than str2")

 Else if str1>str2

 Print("str1 is greater than str2")

 Else

 Print("str1 is equal to str2")

End

3. C program:

```
#include <stdio.h>
#include <string.h>
int main()
{
    char str1[100],str2[100];
    int result,i;
    printf("\n please enter the first string:");
    gets(str1);
    printf("\n please enter the second string:");
    gets(str2);
    for(i=0 ; str1[i]!=0 && str2[i]!=0;i++);
    if(str1[i]<str2[i])
    {
        printf("\n str1 is less than str2");
    }
    else if(str1[i]>str2[i])
    {
        printf("\n str2 is less than str1");
    }
    else
    {
        printf("\n str1 is equal to str2");
    }
    return 0;
}
```

4.Result:

```
PS C:\Users\user\Desktop\c programming> .\strcmp.exe

please enter the first string:archana

please enter the second string:Archana

str2 is less thsn str1
```

5.observation:

gets() function takes input from the user.

2) strcpy() // copies one string to other

1. problem statement:

String copy using user defined functions.

2. pseudo code/ flow chart:

Start

Declare i

Declare str[] copystr[]

Input str and copystr

For i=0; str[i]!='\0';i++

 Copystr[i]=str[i]

Copystr[i]='\0';

Print("print the updated/copied string")

End

3. C program:

```
# include <stdio.h>
# include <string.h>
int main()
{
    char str[100],copystr[100];
    int i;
    printf("\n please enter any string:");
    gets(str);
    for(i=0;str[i]!='\0';i++)
    {
        copystr[i]=str[i];
    }
    copystr[i]='\0';
    printf("\n String that we copied into copystr=%s",copystr);
    printf("\n Total number of characters that we copied=%d\n",i);
    return 0;
}
```

4. Results:

```
please enter any string:archana  
  
String that we copied into copystr=archana  
Total number of characters that we copied=7  
PS C:\Users\user\Desktop\c programming> █
```

5.observation:

gets() function inputs the string from the user.

3) strcat() // appends one string at the end of other

1. problem statement:

String concatenation using user defined functions.

2. pseudo code/ flow chart:

Start

Declare str1,str2,i,j

Input str1,str2

Start for loop

For i=0;str1[i]!='\0';i++

For i=0;str2[i]!='\0';i++

Str1[i]=str2[j]

Str1[i]='\0'

Print("the updated string")

End

3. C program:

```
#include <stdio.h>
int main()
{
    char str1[50], str2[50], i, j;
    printf("\nEnter first string: ");
    scanf("%s",str1);
    printf("\nEnter second string: ");
    scanf("%s",str2);

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

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

    str1[i]='\0';
    printf("\nOutput: %s",str1);

    return 0;
}
```

4. Results:

```
}
^
PS C:\Users\user\Desktop\c programming> gcc strcat.c -o strcat
PS C:\Users\user\Desktop\c programming> .\strcat.exe

Enter first string: Archana

Enter second string: Uppala B

Output: ArchanaUppala
PS C:\Users\user\Desktop\c programming> █
```

5.Observation:

Appending null character('\0') at the end of the string.

4) **strrev()** // reverses the string

1. problem statement:

String concatenation using user defined functions

2. pseudo code/ flow chart:

Start

Declare str[], len,i

Input the string from the user

Find the length of the string using len() function

For i=len-1; i>=0; i--

Print('%c',str[i]);

end

3. C program:

```
# include <stdio.h>
# include <string.h>
int main()
{
    char str[50];
    int len,i;
    printf("c program to reverse a string\n");
    printf("enter a string:");
    scanf("%s",str);
    len=strlen(str);
    for(i=len-1; i>=0; i--)
    {
        printf("%c",str[i]);
    }
    return 0;
}
```

4. Results:

```
PS C:\Users\user\Desktop\c programming> gcc strrev.c -o strrev
PS C:\Users\user\Desktop\c programming> .\strrev.exe
c program to reverse a string
enter a string:archana
anahcra
PS C:\Users\user\Desktop\c programming> |
```

5) strlwr() // converts string to lower

1. problem statement:

Conversion of the string to lowercase

2. pseudo code/ flow chart:

Start

Declare str1, i

Input the string form the user

Start the for loop

For i=0;str1[i]!='\0';i++

If str1[i]>='A' && str1[i]<='Z'

Str1[i]=str1[i]+32

Then

Print(" The string in the lower case is %s",str1)

End

3. C program:

```
# include <stdio.h>
# include <string.h>
int main ()
{
    char Str1[100];
    int i;
```

```

printf("\n Please Enter a String to Convert into Lowercase : ");
gets(Str1);

for (i = 0; Str1[i]!='\0'; i++)
{
    if(Str1[i] >= 'A' && Str1[i] <= 'Z')
    {
        Str1[i] = Str1[i] + 32;
    }
}

printf("\n The given String in Lower Case = %s", Str1);

return 0;
}

```

4. Results:

```

Enter a String:archana
anahcra
PS C:\Users\user\Desktop\c programming> .\strlwr

Please Enter a String to Convert into Lowercase : ARCHANA

The given String in Lower Case = archana
PS C:\Users\user\Desktop\c programming> .\strlwr

Please Enter a String to Convert into Lowercase : ARCHANA UPPALA B

The given String in Lower Case = archana uppala b
PS C:\Users\user\Desktop\c programming> .\strlwr

Please Enter a String to Convert into Lowercase : PROGRAMMING FOR PROBLEM SOLVING

The given String in Lower Case = programming for problem solving
PS C:\Users\user\Desktop\c programming>

```

5.Observation:

6)strupr() // converts string to upper

1. problem statement:

Conversion of string to uppercase

2. pseudo code/ flow chart:

Start

Declare str1, i

Input the string form the user

Start the for loop

For i=0;str1[i]!=0;i++

 If str1[i]>='a' && str1[i]<='z'

 Str1[i]=str1[i]-32

Then

Print(" The string in the upper case is %s",str1")

End

3. C program:

```
# include <stdio.h>
# include <string.h>
int main()
{
    char Str1[100];
    int i;

    printf("\n Please Enter a String to Convert into Uppercase : ");
    gets(Str1);

    for (i = 0; Str1[i]!='\0'; i++)
    {
        if(Str1[i] >= 'a' && Str1[i] <= 'z')
        {
            Str1[i] = Str1[i] - 32;
        }
    }

    printf("\n The given String in Upper Case = %s", Str1);

    return 0;
}
```

4. Results:

```
PS C:\Users\user\Desktop\c programming> .\strupr

Please Enter a String to Convert into Uppercase :  archana uppala b

The given String in Upper Case = ARCHANA UPPALA B
PS C:\Users\user\Desktop\c programming> .\strupr

Please Enter a String to Convert into Uppercase :  programming for problem solving

The given String in Upper Case = PROGRAMMING FOR PROBLEM SOLVING
PS C:\Users\user\Desktop\c programming> 
```

5.Observation:

%s is the format specifier for the strings.

7) strlen() // returns length of the string

1. problem statement:

Finding the length of the string using user defined functions.

2. pseudo code/ flow chart:

Start

Declare str, i,len=0

Input the string form the user

Start the for loop

For i=0;str1[i]!=0;i++

len++

Then

Print(“ The length of the string is %d”,len)

End

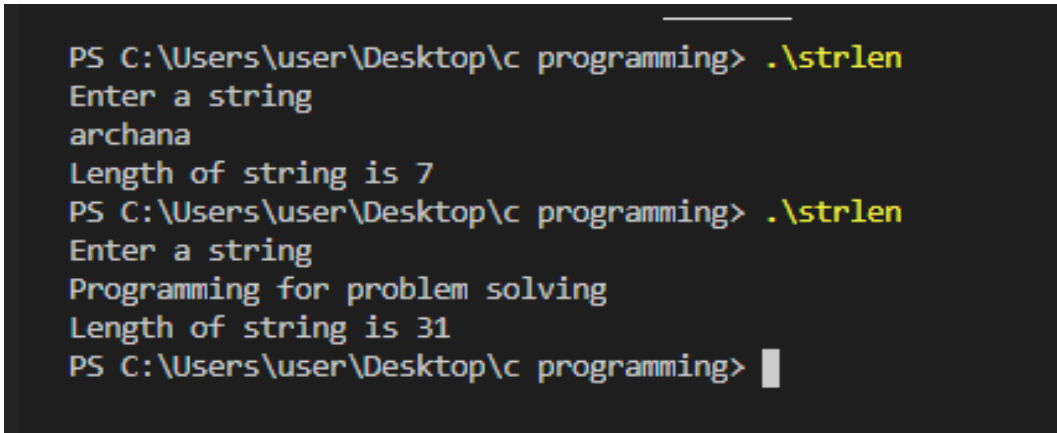
3. C program:

```
#include <stdio.h>
#include<string.h>
int main()
{
    char str[50];
    int i, len = 0;

    printf("Enter a string \n");
    gets(str);

    for (i=0; str[i] != '\0'; i++)
    {
        len++;
    }
    printf("Length of string is %d", len);
}
```

4. Results:



```
PS C:\Users\user\Desktop\c programming> .\strlen
Enter a string
archana
Length of string is 7
PS C:\Users\user\Desktop\c programming> .\strlen
Enter a string
Programming for problem solving
Length of string is 31
PS C:\Users\user\Desktop\c programming> █
```

5.observation:

gets() function takes the input from the user.

8) substr(m,n) // returns the sub string from mth index to n Characters

1. problem statement:

returning the substring from mth index to nth index using user defined functions.

2. pseudo code/ flow chart:

start

declare str,c, position, length

input a string

write a prompt that asks the position and length of substring

input position and length

write a while loop

sub[c] = string[position+c-1];

increment c by c++

sub[c]='\0'

printf("The Required substring is \"%s\\n\", sub)

end

3.C program:

```
#include <stdio.h>

int main()
{
    char string[100], sub[100];
    int position, length, c = 0;

    printf("Input a string\n");
    gets(string);

    printf("Enter the position and length of substring\n");
    scanf("%d%d", &position, &length);

    while (c < length)
    {
        sub[c] = string[position+c-1];
        c++;
    }
}
```

```

    }
    sub[c] = '\0';

    printf("Required substring is \"%s\"\n", sub); // '\"' to print "

    return 0;
}

```

4.Results:

```

Length of string is 51
PS C:\Users\user\Desktop\c programming> gcc substr.c -o substr
PS C:\Users\user\Desktop\c programming> .\substr
Input a string
archana
Enter the position and length of substring
2
6
Required substring is "rchana"
PS C:\Users\user\Desktop\c programming> .\substr
Input a string
Programming for Problem solving
Enter the position and length of substring
1
7
Required substring is "Program"
PS C:\Users\user\Desktop\c programming>

```

5.Observation:

// '\"' to print "
