PUNE INSTITUTE OF COMPUTER TECHNOLOGY
PUNE - 411043
Department of Electronics & Telecommunication
ASSESMENT YEAR: 2020-2021   CLASS: SE V
SUBJECT: Data Structure and Algorithm
Assg No: 1 (b)   **Roll No:22119**   **Date:9th November, 2020**

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Batch: E5

Problem Statement: Write a program in C to implement string operations such as, 1. Substring, 2. Palindrome, 3. Compares, 4. Copy, 5. Reverse Without pointers to arrays

INPUT CODE:

```
#include<stdio.h>
void read (char []);
void display (char []);
void substr (char [], char []);
void reverse (char [], char []);
void palindrome (char [], char []);
void compare (char [], char []);


void concate (char [], char []);

void main ()
{
printf("\n  OPERATIONS ON ARRAY WITHOUT USING POINTER\n");
printf("\n*********************************************\n\t\tROLL
NO:22119\n*********************************************\n");
int c, choice;
char a [100];
char b [100];
read(a);
do
{
printf ("\n1) Display the string \n2) Check substring \n3) Reverse of string \n4) Check
palindrome \n5) Compare two strings \n6) Concatenation\n\n");
scanf ("%d", &c);
switch(c)
{
```
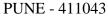
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```c
case 1:
display(a);
break;
case 2:
substr (a, b);
break;
case 3:
reverse (a, b);
break;
case 4:
palindrome (a, b);
break;
case 5:
compare (a, b);
break;
case 6:

concate (a, b);
break;
default:
printf ("Enter valid choice");
}
printf ("Press 1 to continue and 0 to stop. \n");
scanf ("%d", &choice);
printf("\n");
}
while(choice==1);
getch ();
}

void read (char a[])
{
printf ("Enter the string :");
gets(a);
printf("\n");
}
```

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```c
void display (char a[])
{
printf ("The string is :");
puts(a);
printf("\n");
}

void substr (char a[],char b[])
{
int i=0, j=0, flag=0;
printf ("Enter the substring :");
scanf ("%s", b);
while(a[i]!='\0')
{
if(a[i]==b[j])
{
i++;
j++;
if(b[j]=='\0')
{
flag=1;
printf ("Substring is found\n");
break;
}
}
else
{
i++;
j=0;
}
}
if(flag==0)
{
printf ("Substring not found\n");
}
printf("\n");
}
```

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```
void reverse (char a[], char b[])
{
int i, j, c=0;
for (i=0; a[i]!='\0';i++)
{
c++;
}
for (i=c-1 ,j=0;i>0,j<c; i--,j++)
{
        b[i]=a[j];
}
printf ("Reverse of the string is :");
puts(b);
printf("\n");
}
void palindrome (char a[] ,char b[])
{
int i, j, c=0;
for (i=0; a[i]!='\0';i++)
{
c++;
}
for (i=c-1, j=0; i>0, j<c; i--, j++)
{
b[i]=a[j];
if(b[i]==a[i])
{
printf ("Palindrome: YES \n");
break;
}
else
{
printf ("Palindrome: NO \n");
break;
}
}
printf("\n");
```

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```
}
void compare (char a[], char b[])
{ int i;
printf ("Enter a string to be compared: ");
scanf ("%s", b);
for (i=0; a[i]!='\0';i++)
{
if(a[i]!=b[i])
{
printf ("Strings are not equal.\n");
break;
}
else
{
printf ("Strings are equal.\n");
break;
}
}
printf ("\n");
}

void concate (char a[],char b[])
{
int i, j;
printf ("Enter a string to be concatenated:");
scanf ("%s", b);
i=0, j=0;
while (a[i]!='\0')
{
i++;
}
while(b[j]!= '\0')
{
a[i]=b[j];
i++;
j++;
}
```

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```
a[i]='\0';
printf ("String after concatenation :%s\n", a);
}
```

OUTPUT:

```
   OPERATIONS ON ARRAY WITHOUT USING POINTER

**********************************************
               ROLL NO:22119
**********************************************
Enter the string :qwer


1) Display the string
2) Check substring
3) Reverse of string
4) Check palindrome
5) Compare two strings
6) Concatenation

1
The string is :qwer

Press 1 to continue and 0 to stop.
1


1) Display the string
2) Check substring
3) Reverse of string
4) Check palindrome
5) Compare two strings
6) Concatenation

2
Enter the substring :er
Substring is found

Press 1 to continue and 0 to stop.
1


1) Display the string
2) Check substring
3) Reverse of string
4) Check palindrome
5) Compare two strings
6) Concatenation

3
Reverse of the string is :rewq

Press 1 to continue and 0 to stop.
1
```

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```
1) Display the string
2) Check substring
3) Reverse of string
4) Check palindrome
5) Compare two strings
6) Concatenation

4
Palindrome: NO

Press 1 to continue and 0 to stop.
1


1) Display the string
2) Check substring
3) Reverse of string
4) Check palindrome
5) Compare two strings
6) Concatenation

5
Enter a string to be compared: beta
Strings are not equal.

Press 1 to continue and 0 to stop.
1


1) Display the string
2) Check substring
3) Reverse of string
4) Check palindrome
5) Compare two strings
6) Concatenation

6
Enter a string to be concatenated:alpha
String after concatenation :qweralpha
Press 1 to continue and 0 to stop.
```

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```
  OPERATIONS ON ARRAY WITHOUT USING POINTER

*********************************************
              ROLL NO:22119
*********************************************
Enter the string :alpla


1) Display the string
2) Check substring
3) Reverse of string
4) Check palindrome
5) Compare two strings
6) Concatenation

4
Palindrome: YES

Press 1 to continue and 0 to stop.
```