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**NPTEL** (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » **Problem Solving Through Programming In C (course)**

## Week 7 : Programming Assignment 4

**Due on 2023-09-14, 23:59 IST**

Write a C program to print Largest and Smallest Word from a given sentence. If there are two or more words of same length, then the first one is considered. A single letter in the sentence is also consider as a word.

**Private Test cases**  
used for  
evaluation

Input	Expected Output	Actual Output	Status
AICTE Approved FDP Course.	Largest Word is: Approved\n Smallest word is: FDP	Largest Word is: Approved\n Smallest word is: FDP\n	Passed

The due date for submitting this assignment has passed.

1 out of 1 tests passed.

You scored 100.0/100.

**Assignment submitted on 2023-09-13, 20:21 IST**

Your last recorded submission was :

```

1 #include<stdio.h>
2 #include<string.h>
3 int main()
4 {
5     char str[100]={0},substr[100][100]={0};
6     //str[100] is for storing the sentence and substr[50][50] is for storing each
7     scanf("%[^\n]s", str); //Accepts the sentence from the test case data.
8
9     /* Complete the program to get the desired output.
10    The print statement should be as below
11
12    printf("Largest Word is: %s\nSmallest word is: %s\n", -----,-----);
13
14    */
15

```

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Course  
outline

How does an  
NPTEL  
online  
course  
work? ()

Week 0 : ()

Week 1 ()

Week 2 ()

Week 3 ()

Week 4 ()

Week 5 ()

**Week 6 ()****Week 7 ()**

- Lecture 31 :  
Linear Search  
(unit?  
unit=69&lesso  
n=70)
- Lecture 32 :  
Character  
Array and  
Strings (unit?  
unit=69&lesso  
n=71)
- Lecture 33 :  
String  
Operations  
(unit?  
unit=69&lesso  
n=72)
- Lecture 34 : 2-  
D Array  
Operation  
(unit?  
unit=69&lesso  
n=73)
- Lecture 35 :  
Introducing  
Functions  
(unit?  
unit=69&lesso  
n=74)
- Quiz: Week 7:  
Assignment 7  
(assessment?  
name=248)
- Week 7 :  
Programming  
Assignment 1  
(/noc23\_cs121  
/progassignm  
ent?  
name=249)
- Week 7 :  
Programming  
Assignment 2  
(/noc23\_cs121  
/progassignm  
ent?  
name=250)

```

16 int i=0,j=0,k=0,a,minIndex=0,maxIndex=0,max=0,min=0;
17 char c;
18 while(str[k]!='\0') //for splitting sentence into words
19 {
20     j=0;
21     while(str[k]!=' ' && str[k]!='\0' && str[k]!='.')
22     {
23         substr[i][j]=str[k];
24         k++;
25         j++;
26     }
27     substr[i][j]='\0';
28     i++;
29     if(str[k]!='\0')
30     {
31         k++;
32     }
33 }
34 int len=i;
35 max=strlen(substr[0]);
36 min=strlen(substr[0]);
37
38 //After splitting getting length of string and finding its index having n
39 for(i=0;i<len;i++)
40 {
41     a=strlen(substr[i]);
42     if(a>max)
43     {
44         max=a;
45         maxIndex=i;
46     }
47     if(a<min)
48     {
49         min=a;
50         minIndex=i;
51     }
52 }
53 printf("Largest Word is: %s\nSmallest word is: %s\n",substr[maxIndex],subst
54 return 0;
55 }
56

```

## Sample solutions (Provided by instructor)

```

1 #include<stdio.h>
2 #include<string.h>
3 int main()
4 {
5     char str[100]={0},substr[100][100]={0};
6     //str[100] is for storing the sentence and substr[50][50] is for storing each
7     scanf("%[^\n]s", str); //Accepts the sentence from the test case data.
8
9     /* Complete the program to get the desired output.
10    The print statement should be as below
11
12    printf("Largest Word is: %s\nSmallest word is: %s\n", -----,-----);
13
14    */
15
16 int i=0,j=0,k=0,a,minIndex=0,maxIndex=0,max=0,min=0;
17 char c;
18 while(str[k]!='\0') //for splitting sentence into words
19 {
20     j=0;
21     while(str[k]!=' ' && str[k]!='\0' && str[k]!='.')
22     {
23         substr[i][j]=str[k];
24         k++;
25         j++;
26     }
27     substr[i][j]='\0';
28     i++;
29     if(str[k]!='\0')
30     {
31         k++;
32     }
33 }

```

☒ Week 7 :  
Programming  
Assignment 3  
(/noc23\_cs121  
/progassignment?  
name=251)

☒ Week 7 :  
**Programmin  
g Assignment  
4**  
(/noc23\_cs12  
1/progassign  
ment?  
**name=252)**

☐ Feedback  
Form of Week  
7 (unit?  
unit=69&lesso  
n=255)

☐ Assignment 7  
Solution (unit?  
unit=69&lesso  
n=76)

**Week 8 ()**

**Week 9 ()**

**Week 10 ()**

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Transcripts ()**

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Solving  
Session -  
July 2023 ()**

```

33     }
34     int len=i;
35     max=strlen(substr[0]);
36     min=strlen(substr[0]);
37
38     //After splitting getting length of string and finding its index having n
39     for(i=0;i<len;i++)
40     {
41         a=strlen(substr[i]);
42         if(a>max)
43         {
44             max=a;
45             maxIndex=i;
46         }
47         if(a<min)
48         {
49             min=a;
50             minIndex=i;
51         }
52     }
53     printf("Largest Word is: %s\nSmallest word is: %s\n",substr[maxIndex],subst
54     return 0;
55 }
```