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NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » **Programming in Java (course)**

Announcements (announcements)

About the Course (https://swayam.gov.in/nd1_noc20_cs08/preview) Ask a Question (forum)

Progress (student/home) Mentor (student/mentor)

Java Week 9 : Q2

Due on 2020-04-03, 23:59 IST

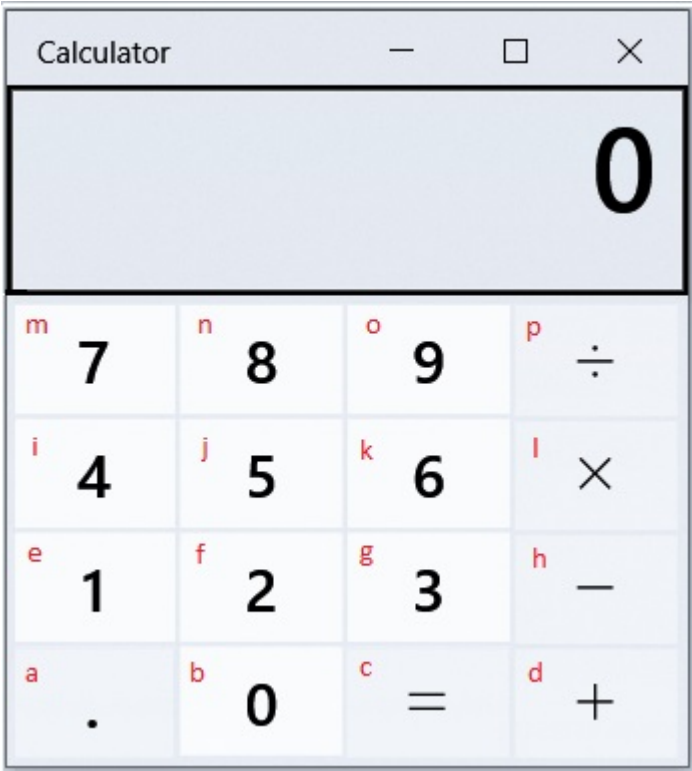
Course outline

How does an NPTEL online course work?**Week 0 :****Week 1 :****Week 2 :****Week 3 :****Week 4 :****Week 5 :****Week 6 :****Week 7 :****Week 8 :****Week 9 :**

- Lecture 41 : Demonstration-

- XV (unit?
unit=10&lesson=55)
- Lecture 42 :
AWT
Programming--
III (unit?
unit=10&lesson=56)
- Lecture 43 :
Swing—I
(unit?
unit=10&lesson=57)
- Lecture 44 :
Swing—II
(unit?
unit=10&lesson=58)
- Lecture 45 :
Demonstration-
XVI (unit?
unit=10&lesson=59)
- Quiz :
Assignment 9
(assessment?
name=104)
- Java Week 9 :
Q1
(/noc20_cs08/progassignment?
name=167)
- Java Week 9 :
Q2
(/noc20_cs08/progassignment?
name=168)
- Java Week 9 :
Q3
(/noc20_cs08/progassignment?
name=169)
- Java Week 9 :
Q4
(/noc20_cs08/progassignment?
name=170)
- Java Week 9 :
Q5
(/noc20_cs08/progassignment?
name=171)
- Feedback For
Week 9 (unit?
unit=10&lesson=178)

Complete the code to **develop an ADVANCED CALCULATOR** that emulates all the functions of the GUI Calculator as shown in the image.



- Note the following points carefully:**
1. Use only double datatype to store all numeric values.
 2. Each button on the calculator should be operated by typing the characters from 'a' to 'p'.
 3. To calculate 25-6, User should input fjhkc (where, f for 2, j for 5, h for '-', k for 6 and c for '=').
 3. You may use the already defined function gui_map(char).
 4. Without '=', operations won't give output as shown in Input_2 and Output_2 example below.
 5. The calculator should be able to perform required operations on two operands as shown in the below example:

Input_1:
klgc
Output_1:
18.0

Input_2:
klg

Output_2:

Week 10 :	Private Test cases used for evaluation	Input	Expected Output	Actual Output	Status

DOWNLOAD VIDEOS

Assignment Solution

Books

Live Interactive Session

Test Case 1

efagdb
amc

13.0

13.0

Pass
ed

Test Case 2

mlkc

42.0

42.0

Pass
ed

The due date for submitting this assignment has passed.

2 out of 2 tests passed.

You scored 100.0/100.

Assignment submitted on 2020-04-03, 21:33 IST

Your last recorded submission was :

```

1 import java.util.Scanner;
2 public class Question92{
3     public static void main(String args[]){
4         Scanner sc = new Scanner(System.in);
5         String input = sc.nextLine();
6         // Write code below...
7         // Write code below...
8         char seq[] = input.toCharArray();
9         int outflag=0;
10
11         // Start the mapping process for each input character
12         for(int i=0; i<seq.length; i++){
13             seq[i]=gui_map(seq[i]);
14         }
15
16         //Print Mapped GUI (remove comment to see the mapped sequence input)
17         /*
18         for(int i=0; i<seq.length; i++){
19             System.out.print(seq[i]);
20         }
21         */
22
23         // Use double type of values for entire calculation
24         double operand1=0.0;
25         String o1="";
26         double operand2=0.0;
27         String o2="";
28         double output=0.0;
29
30         // Perform calculation operations
31         outerloop:
32         for(int i=0; i<seq.length; i++){
33             int r=0;
34             if(seq[i]=='+'||seq[i]=='-'||seq[i]=='/'||seq[i]=='X'||seq[i]=='')
35                 for(int j=0; j<i; j++){
36                     o1+=Character.toString(seq[j]);
37                 }
38             operand1=Double.parseDouble(o1);
39             for(int k=i+1; k<seq.length; k++){
40                 if(seq[k]=='='){
41                     outflag=1;
42                     operand2=Double.parseDouble(o2);
43                     if(seq[i]=='+'){
44                         output=operand1+operand2;
45                     }else if(seq[i]=='-'){
46                         output=operand1-operand2;
47                     }else if(seq[i]=='/'){
48                         output=operand1/operand2;
49                     }else if(seq[i]=='X'){
50                         output=operand1*operand2;
51                     }
52                     break outerloop;
53                 }else{
54                     o2+=Character.toString(seq[k]);
55                 }
56             }
57         }

```

```

58     }
59
60     // Check if output is available and print the output
61     if(outflag==1)
62         System.out.print(output);
63
64 }// The main() method ends here.
65
66 // A method that takes a character as input and returns the corresponding GU
67
68 static char gui_map(char in){
69     char out = '\0'; // N = Null/Empty
70     char gm[][]={
71         {'a','.'},
72         {'b','0'},
73         {'c','='},
74         {'d','+'},
75         {'e','1'},
76         {'f','2'},
77         {'g','3'},
78         {'h','-'},
79         {'i','4'},
80         {'j','5'},
81         {'k','6'},
82         {'l','X'},
83         {'m','7'},
84         {'n','8'},
85         {'o','9'},
86         {'p','/'}};
87
88     // Checking for maps
89     for(int i=0; i<gm.length; i++){
90         if(gm[i][0]==in){
91             out=gm[i][1];
92             break;
93         }
94     }
95     return out;
96 }

```

Sample solutions (Provided by instructor)

Select the Language . Java ▼

```

1  import java.util.Scanner;
2  public class Question92{
3      public static void main(String args[]){
4          Scanner sc = new Scanner(System.in);
5          String input = sc.nextLine();
6          char seq[] = input.toCharArray();
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14         //Print Mapped GUI (remove comment to see the mapped sequence input)
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16         for(int i=0; i<seq.length; i++){
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21         // Use double type of values for entire calculation
22         double operand1=0.0;
23         String o1="";
24         double operand2=0.0;
25         String o2="";
26         double output=0.0;
27
28         // Perform calculaton operations
29         outerloop:
30         for(int i=0; i<seq.length; i++){
31             int r=0;
32             if(seq[i]=='+'||seq[i]=='-'||seq[i]=='/'||seq[i]=='X'||seq[i]=='')
33                 for(int j=0; j<i; j++){

```

```

34         o1+=Character.toString(seq[j]);
35     }
36     operand1=Double.parseDouble(o1);
37     for(int k=i+1; k<seq.length; k++){
38         if(seq[k]=='='){
39             outflag=1;
40             operand2=Double.parseDouble(o2);
41             if(seq[i]=='+'){
42                 output=operand1+operand2;
43             }else if(seq[i]=='-'){
44                 output=operand1-operand2;
45             }else if(seq[i]=='/'){
46                 output=operand1/operand2;
47             }else if(seq[i]=='X'){
48                 output=operand1*operand2;
49             }
50             break outerloop;
51         }else{
52             o2+=Character.toString(seq[k]);
53         }
54     }
55 }
56 }
57
58 // Check if output is available and print the output
59 if(outflag==1)
60     System.out.print(output);
61 }// The main() method ends here.
62
63 // A method that takes a character as input and returns the corresponding GU
64 static char gui_map(char in){
65     char out = '\0'; // N = Null/Empty
66     char gm[][]={{'a','.'},
67                  {'b','0'},
68                  {'c','='},
69                  {'d','+'},
70                  {'e','1'},
71                  {'f','2'},
72                  {'g','3'},
73                  {'h','-'},
74                  {'i','4'},
75                  {'j','5'},
76                  {'k','6'},
77                  {'l','X'},
78                  {'m','7'},
79                  {'n','8'},
80                  {'o','9'},
81                  {'p','/'}};
82
83     // Checking for maps
84     for(int i=0; i<gm.length; i++){
85         if(gm[i][0]==in){
86             out=gm[i][1];
87             break;
88         }
89     }
90     return out;
91 }
92 }

```

