UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

IS2104 - Rapid Application Development 2020

Activity 5

In this tutorial, we are going to learn about operators and expressions in Java.

Instructions

- You should submit
  - "**.java**" and "**.class**" files for all 4 tasks
  - A report with screenshots of contents of "**.java**" file of each question
  - Output of running each ".**class**" file with given test cases.
- Report must be in **PDF** format.
- Report name should be <Index Number>.pdf
  - eg – 18000000.pdf
- Zip all **9** files (".java" files, ".class" files and report), name it <Index Number >.zip and upload it to the submission link.
  - eg – 18000000.zip
- Use appropriate text editor (eg – Notepad , Notepad ++)
- You are not allowed to use IDEs
- Any form of plagiarism or collusion is not allowed.

Assignment 5

1. Write a program to count the number of odd numbers and even numbers from a list of numbers. (Odd_or_Even.java)
   - Your programme should first let the user input the number of inputs. (N; 0<N<100)
   - Then it should let the user enter N number of inputs. (You can use a for loop for this)
   - Then output the number of Odd numbers and Even numbers entered.
   - **You must use the Modulus operator for this task.**
   - Test Case
     - i.   Number of inputs = 5
     - ii.   Inputs = 231,245,115,410,259
   - Example output

```
Enter the number of inputs :
5
Enter the input number 1
21
Enter the input number 2
245
Enter the input number 3
115
Enter the input number 4
410
Enter the input number 5
259
Number of Even Numbers : 1
Number of Odd Numbers : 4
```

2. Write a program to check whether a given is a "Type A" number or "Type B" number (Number_Type.java)
   - Properties of Type A number
     - i.   It is divisible by 25 but not by 100
   - Properties of Type B number
     - i.   It is divisible by 4 but not by 128
   - You programme should let user to input a number and output whether entered number is "Type A" , "Type B" , "Type A and Type B" or "Not (Type A and Type B)"
   - Test Cases
     - i.   50
     - ii.   100

      iii.   200

      iv.   512

  ○ Example output

```
Enter your number :
50
Type A
```

3. Write a program to print the times tables (Multiplication tables). (TimesTable.java)
   - ○ Your programme should get a number from the user (1 to 10 inclusive) and print the respective times table.
   - ○ **You must use the Prefix increment operator for this task.**
   - ○ Test Cases
     - i.   Number = 1
     - ii.   Number = 5
     - iii. Number = 7
     - iv. Number = 8
     - v.   Number =10
   - ○ Example output

```
Enter your number :
5
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
```

4. Write a program to grade the entered mark as follows.(Grade.java)
   - i.   Mark < 50 →"F"
   - ii.   50 <= Mark < 75 → "B"
   - iii. 75<= Mark →"A"
   - ○ **You must use the conditional operator (ternary operator) for this task.**
   - ○ Test Cases
     - i.   10
     - ii.   50

iii. 60
iv. 75
v. 90
○ Example output

```
Enter your mark :
15
Grade : F
```