

BCA1317A02 Java Programming Lab

Warm up with basics of Java

Programming Assignment #1 (Due date: 19/09/2020)

Topics: Data Types, Variable and Constants, I/O, Comments, Operators & Expressions, Decision controls. Iteration controls.

Note:

1. Use any of the following tools for testing and running your code.

IDEs: IntelliJ Idea, NetBeans, Eclipse

Online compilers: <https://ideone.com/>, <https://www.codiva.io/java>

2. Submit your solutions in the Class Notebook of your respective channel.
3. Your solution of the problem should have following format
Problem statement
Code of solution
Test results (at least 3)
4. Write clean code, choose your data type and name of variables appropriately and comment your code wherever necessary. Follow google java style guide <https://google.github.io/styleguide/javaguide.html> in your programs
5. Every code should have a package name as per follow:
Package com.msubaroda.yourname.labno.
6. In the beginning of every program, add a documentation comment like this
/*
* Problem Statement:
* @author
* @date
* @java version
*/

1. Write a program to enter your name and say Hello.
2. Go to the following link and solve the problem. Submit your code along with the test report. <https://www.hackerrank.com/challenges/java-if-else/problem>
3. Write a program to calculate the area of a circle. Use the value of PI from Math class.
4. Solve the above problem by taking a constant $PI = 3.1414$ in your program. Hint: take a final variable.
5. Write a program to calculate area of a square.
6. Write a program to calculate sum of n natural numbers.
7. Write a program to calculate product of n natural numbers.
8. Write a program to calculate product of two integer numbers without using * operator.
9. Write a program to find greatest and least of 3 numbers.
10. What is the use of instanceof operator. Write a program to prove your points. Hint: Create a class and instantiate that class into the Main class and use instanceof operator.

11. Write a program to accept the details of a student (Name, father's name, university name, program name, year, CGPA till previous semester, Mobile No., Adhar No.,) of your class and print the values.
12. Redo the above problem and print the students details in a paragraph as
I am ___, My father's name is ___. I am doing ___ from ___. My CGPA till previous semester is ___. My Mobile Number and Adhar Numbers are_____.
13. Redo the above and print every statement in new line using a single print().
14. Write a program to convert Fahrenheit to Celsius and vice versa.
15. Write a program to generate 50 Fibonacci numbers.
16. Write a program to print number of days in a month.
17. Write a program to divide and multiply a number by 2 without using / and * operator. Hint: use >> and << operators.
18. Write a for loop which runs infinite times.
19. Write a while loop which runs infinite times.
20. Write a program to reverse a number.
21. Write a program to test the primality of a number.
22. Write a program which prints the division of a student based on the marks scored in 5 subjects in HSC.
23. Write a loop (for and while both) which runs from 1-10 but prints only values from 1-6.
24. Write a loop (for and while both) which runs from 1-10 but prints only values from 1-10 except 7.
25. Write a program which runs from 1-500 and stops as soon as the sum of all the previous terms happens 800.
26. Write a program to print a multiplication table of 5 as per given
5 x 1 = 5
5 x 2 = 10
27. Write a program which prints
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28. Write a program to print the eligibility of marriage based on age and sex of a person.
29. Write a program to calculate the area of triangle whose all three sides are given. Hint: Use Heron's formulae. https://en.wikipedia.org/wiki/Heron%27s_formula
30. Write a program to calculate the electricity bill by reading the figures of current and previous months. Tariff is given below:

Unit Slabs	Tariff Rates
First 150 units	2.75
Next 250 units	4.80
Next 600 units	5.20
Above 1000 units	9.90