Hands-on No. : **2**

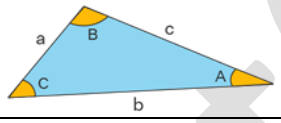
Topic : **Introduction to Java**

Date : **03-05-2024**

Solve the following problems

Question No.	Question Detail	Level
1	Initialize an integer variable ‘number’ with the value 100. Then print the value of ‘number’ to the console.	Easy
2	Initialize two integer variables ‘six’ and ‘four’ with the values as the name says. Then, print the values of 'six' and 'four' to the console.	Easy
3	Declare a variable ‘age’. Assign a value to ‘age’ and print the value of age. Choose the correct datatype for age considering age as a whole number.	Easy
4	Declare three integer variables named 'hundred', 'twoHundred', and 'threeHundred', and initialize them with the values 10, 2000, and -30000 respectively. Then, reassign them with the corresponding number names. Finally, print the values of all three variables.	Easy
5	Declare a variable ‘bookPrice’ (Choose the right datatype). Assign the value 150.50 to ‘bookPrice’. Print the price. Now, re-assign a value to ‘bookPrice’ then print ‘bookPrice’.	Easy
6	Declare the variables for the marks of the subjects ‘Tamil’, ‘English’, and ‘French’. Initialize or assign them with the scores 95,99 and 100 respectively. Print them in separate lines.	Easy
7	Create two variables to store a student's name and his/her age. Assign/initialize them with the appropriate values and display the data.	Easy
8	Create the variables for a player's name, age, height in cm, weight in kg, rank, and mobile number, and assign the values of your	Easy

It is going to be hard but, hard does not mean impossible.

	choice. Display the player detail. (byte, short, int, double, String datatypes can be used).	
9	Read a person's name first, read another person and another. Greet the first person first, the third person second and the second person last. If 'Chloe', 'Joey' & 'Zoe' are the inputs, then the output will be 'Welcome Chloe! Welcome Zoe! Welcome Joey too!'	Easy
10	Write a Java program to add 8 to the given number and then divide it by 3. Now, the modulus of the quotient is taken with 5, and then multiply the resultant value by 5. Display the result.	Easy
11	Write a Java program to accept 3 sides of triangle from user and print area of triangle as an output. (Library method can be used to find the square root) $\text{Area, } A = \sqrt{s(s-a)(s-b)(s-c)}$ Where, $S = \text{Semi Perimeter} = \frac{a+b+c}{2}$ 	Easy
12	A factory-manufactured LED bulbs on the first day. On the second day, it made CFL bulbs. How many bulbs did the factory make altogether? Counts are the input	Easy
13	Suppose the values of variables 'a' and 'b' are 6 and 8 respectively, write programs to swap the values of the two variables. a. First program by using a third variable b. Second program without using any third variable (use arithmetic operators) c. Third program using using XOR operator	Easy
14	Assist the teacher in analyzing the students' fruit preferences recorded as follows: **Students** / **Oranges** / **Mangoes** / **Total** **Girls** / 136 / 240 / **Boys** / 128 / 243 / **Total** / / / a) Determine the total number of students in the school who like oranges.	Easy

	b) Determine the total number of students in the school who like mangoes. c) Calculate the total number of students in the school overall. d) Determine whether the number of girls exceeds the number of boys. State 'true' or 'false'.	
15	Declare four variables numberOne, numberTwo, numberThree, and numberFour of integer type. Assign the values of your choice for the variables numberOne, numberTwo and numberThree. Assign 1000 to numberFour. Print the values. Now re-assign the values as follows to print, 1. numberOne's value to numberTwo 2. numberTwo's value to numberThree 3. numberThree's value to numberFour 4. 100 to numberOne	Medium
16	Write a Java application that takes a duration in minutes as input and calculates the equivalent duration in years and days.	Medium
17	Write a Java program to reverse a 3-digit number.	Medium
18	The total number of students in a class are 90 out of which 45 are boys. If 50% of the total students secured grade 'A' out of which 20 are boys, then write a program to calculate the total number of girls getting grade 'A'.	Medium
19	Write a Java program to calculate Net Salary. User must input Basic Salary and Output should be net salary calculated based on following allowances: **Allowances:** DA = 70% of Basic Salary HRA = 7% of Basic Salary MA = 2% of Basic Salary TA = 4% of Basic Salary **Deduction:** PF = 12% of Basic Salary Income/professional tax = User Input (e.g., 500) **Net Salary** = Basic Salary + Allowances – Deduction	Medium

20	Anisha and Raja took their common pocket money to the market. Anisha bought Apples and Raju bought Bananas. On their way back they saw a Magic Money Vending Machine which gives the triple of the money deposited. They both tried with all the balance amount that they had. Now write a program to, 1. Print the amount, they spent together in the market 2. Print the final amount that they had when they reach home 3. Print the amount they deposited in the magic machine **Inputs:** Pocket money, Apple cost, Banana cost	Medium
21	A cashier in a shop has currency notes of denominations 10,50 and 100. If the amount to be returned is the input, find the total number of currency notes of each denomination that the cashier should give to the customer. Write a program to accomplish the above task. Assume that the input is in 10's multiples.	Medium
22	Electricity bill calculator: Calculate the bill for 30 days based on the given below data. a) There are 2 fans of 60W each. Usage of each fan is 6 hours per day. b) There are 3 lights of 40W each. Usage of each light is 8 hours per day. c) For the other electrical appliances, the total consumption per day is 3000W. d) Cost of 1 unit is Rs.6	Medium
23	Write a Java program to check whether the given number is odd or even. Don't use comparison operator and decision statement.	Medium
24	Write a Java program to detect if two integers have opposite signs or not. Don't use relational operator.	Medium
25	Write a Java program that increments a given number. Don't use arithmetic operators.	Medium