

060010409 – CC11 Java Programming

Assignment - 1

Deadline - 06 January 2020 before 3:00 PM

1	Which of the following arithmetic expressions are valid? a. 25/3%2 b. +9/4+5 c. 7.5%3 d. 14%3+7%2 e. -14%3 f. 15.25+-5.0 g. (5/3)*3+5%3 h. 21%(int)4.5
2	Write Java assignment statements to evaluate the following equations: $Area = \pi r^2 + 2\pi rh$ $Torque = \frac{2m_1m_2}{m_1 + m_2} * g$ $Side = \sqrt{a^2 + b^2 - 2ab \cos(x)}$ $Energy = mass \left(acceleration * height + \frac{velocity^2}{2} \right)$
3	Find errors, if any, in the following assignment statements and rectify them: a. x=y=z=0.5, 2.0-5.75; b. m=++a*5; c. y=sqrt(100); d. p*=x/y; e. s=/5; f. a=b++-c*2;
4	Determine the value of each of the following logical expressions if a=5, b=10 and c=-6 a. a>b && a<c b. a<b && a>c c. a==c b>a d. b>15 && c<0 a>0 e. (a/2.0 == 0.0 && b/2.0!=0.0) c<0.0
5	In the following code the expected value is 78 but it returns the value 59. What would you modify in the code to obtain the expected values? <pre>public static void calculate() { int ans=42+45-48-5-15+20*2; System.out.println("Value of ans : "+ans); }</pre>
6	Provide the reason for declaring main method as static in java.
7	Determine whether the following are true or false: a. When if statements are nested, the last else gets associated with the nearest if without an else. b. One if can have more than one else clause.

	<ul style="list-style-type: none"> c. A switch statement can always be replaced by a series of if...else statements. d. A switch expression can be of any type. e. A program stops its execution when a break statement encountered.
8	What is the difference between next() and nextLine()?
9	Write a detailed note on scanner class. Defination , Usage , Work , Advantage , Problem with scanner class.
10	In what ways does a switch statement differ from an if statement?
11	Compare in terms of their functions, the following pairs of statements: <ul style="list-style-type: none"> a. while and do...while b. while and for c. break and continue
12	What is an empty statement? Explain its usefulness.
13	Write a statement to declare and instantiate an array to hold marks obtained by students in different subjects in a class. Assume that there are up to 30 students in a class and there 5 subjects.
14	Define array. How to initialize an array of float with 20 as a size? Write a snippet code to search specific element from an array.
15	State features of an array. Consider a scenario where a person wants to create one integer type of array which has three rows, and having three, four and two column respectively. Draw a structure of array and write a program to create specified array and take element input from user and display all elements of an array.
16	What are objects? How are they created from a class?
17	Compare and contrast overloading and overriding methods.
18	What are the applications of wrapper classes?
19	Write a detailed note on this keyword.
20	State the usage of getter and setter method using practical example.
21	Do as directed : (A) Define Variable, Access Modifier (B) Enlist types of variable. (C) Difference between static and instance variable.
22	Do as direct and write output 1) 9 >> 3 2) 8 <<3 3) -12 >>4 4) -60 << 4
23	If a constructor's parameters name and member variable name are same then, how one can distinguish both variables? Write an example for same.