Fall 2017 - CS2540 - Programming Workshop

Quiz 2

CIN: 
Name: 

1) ________ keyword is used for declaring a constant variable in java. (1 mark)

2) The keyword break is optional in switch statement. (Say True / False). (1 mark)

3) The default case in Switch statement is Mandatory. (Say True / False). (1 mark)

4) The function used in java to find random numbers is ___________. (1 mark)

5) __________ is the only operator in java which uses three operands. (1 mark)

6) A float has __________ number of significant digits and double has __________. (1 mark)

7) What is the result of 25/4? How would you rewrite the expression if you wish to have the result to be a floating point number? (2 marks)

8) Rewrite the following if statements using the conditional operator. (2 marks)

   a) 
   
   if(x > 10)
   score = 3 * scale;
   else
   score = 3 * scale;

   b) 
   
   if(income > 10000)
   tax = income * 0.2;
   else
   tax = income * 0.7 + 1000;

9) Write an if statement for the following. (2 marks)

   a) That assigns 1 to x if y is greater than 0.
   b) That increases the pay by 3% if the score is greater than 90, otherwise by 1%.

10) Write the truth table for the Boolean operators AND, OR, NOT and Exclusive OR. (2 marks)

11) Assuming that x is 1, show the result for the following Boolean expressions. (3 marks)

   a) (true) && (3 > 4)
   b) !(x > 0) && (x > 0)
   c) (x > 0) || (x < 0)
   d) (x != 0) || (x == 0)
   e) (x >= 0) || (x < 0)
   f) (x != 1) == !(x == 1)
12) Write a Boolean expression for the following,  
   a) Evaluates to true if weight is greater than 50 pounds or height is greater than 60 inches.  
   b) Evaluates to true if weight is greater than 50 pounds and height is greater than 60 inches.  
   c) Evaluates to true if either weight is greater than 50 pounds or height is greater than 60 inches but not both.

13) Write a program that prompts the user to enter a three digit integer and determine whether it is a palindrome number.  
   Note: A number is a palindrome if it reads the same from right to left and from left to right  
   (Example: 121 is a palindrome, 123 is not a palindrome)  
   (5 marks)

14) Write a program that interprets body mass index using if statements.  

15) Write a program that prompts the user to enter a point (x, y) and checks whether a point is within a circle centered at origin and radius to be 10.  
   Hint: Formula for computing distance is  
   \[ D = \sqrt{(x1 - x2)^2 + (y2 - y1)^2} \]  
   (5 marks)

16) Write the following Program,  
   a) To find the factorial of a number. (Factorial of 5 is 5 * 4 * 3 * 2 * 1 = 120)  
   b) To check if a number is prime or not.  
   c) To print a Fibonacci Series (Series: 0, 1, 1, 2, 3, 5, 8, 13...)  
   (5 + 5 + 5 marks)