



King Saud University
College of Science
Department of Statistics & OR
Second Semester 1433-1434



201 CSc. Imidterm Exam.

Question 1

Given the variables below, evaluate the following expressions.

int $a=5$, $b=9$;

double $c=15.0$;

boolean $x=true$, $y=false$, z ;

1. $a * b \% 3$
2. $b / a * c - b \% a$
3. $(b \geq a \parallel c == 0) \&\& a * b < 40$
4. $!(1 + 2 * a == 3) \&\& (b - 23 + a != 1)$
5. $z = !((!x \&\& !y) \parallel y)$;

Question 2

Rewrite the following fragment using switch-case instead of if-else statement.

float $num1$, $num2$;

char $op = '+'$;

```
if ( op == '+' )    System.out.println ( " = "+ num1 + num2 );  
else if ( op == '-' )    System.out.println ( " = "+ num1 - num2 );  
else if ( op == '*' )    System.out.println ( " = "+ num1 * num2 );  
else if ( op == '/' )    System.out.println ( " = "+ num1 / num2 );
```

Question 3

Some statistical observations are given as :

12, 20, 9, 15, 10,

Write a Java program that calculates: mean and variance and standard deviation for this sample, where standard deviation is the square root of the variance and the variance is given as

$$S^2 = \frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n-1}$$

Question 4

- a. Write a Java declaration for the following
1. An integer named x initialized to -1
 2. An initialized string intended to hold some one's name.
 3. Three variables initialized to 10.5, 0, 11.5.
- b. Which of the following variable declarations are correct, if not, why ?
4. *long good_by;*
 5. *int 8ball;*
 6. *int double;*

Question 5

Find errors and correct, if any, then find the output of the following program.

```
class division
{
    public static void main(String args[])
    {
        int x=7,y=3,quot,rem;
        double a=9,b=2;
        double div;
        quot=x/y;
        remainder=x%a;
        division=y/b;
        System.out.println("quotient =" + quot);
        System.out.println("remainder=" + rema);
        System.out.println("division=" + div);
    }
}
```

With best wishes
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