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Matrics Number: A20EC0079

1.Determine whether the following expression is **true** or **false,** assuming that:  
  
int p=5, q=6, r=7

1. r != 4

**=True**

1. 2 + p == q + r

**=False**

1. r – p >= q / 3

**=True**

1. q + 3 < q\* 3

**=True**

1. p + q \* r > q \* r – p

**=True**

3. Indicate whether the following statements about relational operators are correct or incorrect.

1. a <= b is the same as b > a

= **INCORRECT**

1. a != b is the same as b >= a

= **INCORRECT**

1. a >= b is the same as b <= a

= **CORRECT**

1. !(a < b) is the same as a >= b

= **CORRECT**

1. !(a > b) is the same as a<= b

= **CORRECT**

5. Write a logical expression for each of the following conditions:

a. sale is at least 1000 units or hours\_worked is not less than 100.

**Answer:** (sales >= 1000 || hours\_worked >= 100)

6. Write logical assignment statements for each of the following:

a. Assign true to range if num is in the range -x and +x, inclusive; otherwise assign a value of false.

if (num > -x && num < +x)

range = true;

else

range = false;

b. Assign true to lowercase if letter is a lowercase letter, otherwise assign a value of false.

if (islower(letter))

lowercase = true;

else

lowercase = false;

c. Assign true to isDigit if ch is a digit character ‘0’ to ‘9’ inclusive.

if (ch >= 0 && ch <= 9)

isDigit = true;

d. Assign true to mathOp if ch is one of the characters +, -, \*, /, %.

switch ( ch )

{

case ‘+’ :

case ‘-‘ :

case ‘\*’ :

case ‘/’ :

case ‘%’:

mathOp = true;

break;

}