

CSCI 1990 TEST 2 STUDY GUIDE FALL 2009

CHAPTER 5: CONDITIONALS AND LOOPS

1. Circle what is output below.

- a) `m = 5;`
`if (m > 0)`
`System.out.println("first");`
`System.out.println("second");`
- b) `m = 5;`
`if (m > 0)`
`System.out.println("first");`
`else`
`System.out.println("second");`
- c) `m=5;`
`if (m>0)`
`System.out.println("first");`
`else`
`System.out.println("second");`
`System.out.println("third");`
- d) `m=5;`
`if (m>0)`
`System.out.println("first");`
`else`
`{`
`System.out.println("second");`
`System.out.println("third");`
`}`
- e) `m=80;`
`if (m < 70)`
`if (m < 60)`
`System.out.println("first");`
`else`
`System.out.println("second");`
`else`
`System.out.println("third");`
`System.out.println("fourth");`
- f) `m=80;`
`if (m < 70)`
`if (m < 60)`
`System.out.println("first");`
`else`
`System.out.println("second");`
`System.out.println("third");`
- g) `m=65;`
`if (m < 70)`
`if (m < 60)`
`System.out.println("first");`
`else`
`System.out.println("second");`
`System.out.println("third");`

```

h) m=50;
   if (m < 70)
   if (m < 60)
   System.out.println( "first" );
   else
   System.out.println("second" );
   System.out.println("third");
i) m=80;
   if (m < 70)
   {
   if (m < 60)
   System.out.println( "first" );
   }
   else
   System.out.println("second" );
   System.out.println("third");
j) m=75;
   if (m>=80)
       if (m <90)
           System.out.println("first");
   else
       System.out.println("second");
   System.out.println("third");
k) m=75;
   if (m>=80)
   {
       if (m <90)
           System.out.println("first");
   }
   else
       System.out.println("second");
   System.out.println("third");
l) score = 75;
   if (score >= 90)
       grade = "A";
   else if (score >= 80)
       grade = "B";
   else if (score >= 70)
       grade = "C";
   else if (score >= 60)
       grade = "D";
   else
       grade = "F";
   System.out.println("Grade is "+grade);      Grade is C

```

2. Write Java statements so that if x equals y, output "equal", otherwise output "not equal".

3. Write a **switch** statement equivalent to the following nested if/else statements.

```
range=grade/10;
if (range==10)
    System.out.println("A+");
else if (range==9)
    System.out.println("A");
else if (range==8)
    System.out.println("B");
else if (range==7)
    System.out.println("C");
else if (range==6)
    System.out.println("D");
else
    System.out.println("F");
```

4. What is output by the following?

```
a) count = 0;
   if (count < 4)
       count = count + 1;
   System.out.println(count);
b) count = 0;
   while (count < 4)
       count = count + 1;
   System.out.println(count);
c) count = 0;
   while (count < 4)
   {
       count = count + 1;
       System.out.println(count);
   }
d) count = 1;
   while (count <= 4)
   {
       count=count+1;
       System.out.println(count);
   }
e) count = 1;
   while (count <= 4)
       count = count + 1;
   System.out.println(count);
f) count = 1;
   while (count >= 4)
       count = count + 1;
   System.out.println(count);
```

5. Be able to write Java statements to output the integers from 1 to n (where n has already been input by the user) using each of the following types of loops:

- a. **for**
- b. **while**
- c. **do/while**

6. What is output by the following?
- a)

```
for (i=1; i <=4; i++)  
    System.out.println( i );
```
 - b)

```
for (i=1; i < 4; i++)  
    System.out.println( i );
```
 - c)

```
for (i=1; i >=4; i++)  
    System.out.println( i );
```
 - d)

```
for (i=1; i <=4; i++) ;  
    System.out.println( i );
```
 - e)

```
for (i=4; i >=1; i--)  
    System.out.println( i );
```
 - f)

```
for (i=1; i < 5; i++)  
    System.out.println( i );
```
 - g)

```
/* Assume that x=2 and y=10 */  
for (j=x; j <= 4*x*y; j += y/x)  
    System.out.println( j );
```
 - h)

```
for (i=1; i<=4; i++)  
    System.out.println( "LC" );
```
 - i)

```
for (counter=1; counter<=10; counter++)  
{  
    counter=20;  
    System.out.println( counter );  
}
```
 - j)

```
for (i=7; i<=77; i+=7)  
    System.out.println( i );
```
 - k)

```
for (n=1, product=1; n<=5; n++)  
    product=product*n;  
System.out.println(product);
```