DISCLAIMER: This is Study-Guide and in no way indicates what will or will not be on the test.

1. What is y after the following switch statement?

```
int x=0;
int y=0;
switch(x) {
        case 0:   y=0;
        case 1:   y=1;
        default: y=-1;
}
```

ANSWER: -1

2. What is y after the following statements are executed?

```
int x=1;
int y = x= x + 1;
```

ANSWER: y=2

3. What is the output of the following loop?

```
int j=1, k=0, n=5;
while (j <= n) {
        k = j + (n%j);
        System.out.print(k+" ");
        j++;
}
```

j	k	n	j<=n
1	0	5	T
2	1		T
3	3		T
4	5		T
5	5		T
6	5		F

ANSWER: 1 3 5 5 5

4. What is the output of the following code?

```
int x = -1, y = -1, and z = 1;
if  ( x > 0 ){
if  ( y > 0 )
System.out.println("X > 0 and y > 0");
else if (z > 0 )
System.out.println("x < 0 and z > 0"):
```

ANSWER:_____

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Indicate the number of iteration for each loop. Assume n>=1.

		Answer
5	int i=1; while (i<=n) { i++; }	n times
6	int i=1; while (i<=0) { i++; }	0 times
7	int i=n; while (i>0) { i--; }	n times
8	int i=n; while (i>=0) { i--; }	n+1 times
	int i=n; while (i>0) { i++; }	infinite

9. Write a java statement to generate a random integer value between 50 and 100 (inclusive).

```
X = (int)(Math.random() * Y)
50 + (int)(Math.random() * 51)
```

10. Write an if statement that decreases ***pay*** by 3% if score is ***less*** that 90.

```
if(score<90)
    pay = pay * 0.97; <=> pay = pay - pay * 0.03;
```

11. Write a Boolean expression that evaluates ***true*** if

100 ≤ weight ≤ 200

```
(weight >= 100 && weight <= 200)
```

12. Convert the following ***While*** loop to a ***for*** loop.

```
int sum = 0;
int i=0;
while (I <= 100){
        sum += i;
}
```

```
int sum=0;
for(int i=0; i<=100; i++){
    sum += i;
}
```

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```
        i=i+1;
}
```

13. Write an algorithm that displays the following table. Note that 1 kilogram is 2.2 pounds.

Pounds	Kilogram
20	9.09
25	11.36
.	
.	
.	
510	231.82
515	234.09

```
print "pounds  kilogram"
for(int p=20; p<=515; p=p+5){
  double k = p/2.2;
  print p + "  " + k;
}
```

14. Use while loop to find the smallest integer n such that n^2 is greater than 12,000

```
int n=1;
while(n*n <= 12000){
   n++;
}
print n
```

15. Given n, calculate and print it's reverse.

```
int result = 0;
while (n != 0){
   digit = n%10;
   result = result*10+digit;
   n = n/10;
}
```

n	digit	result
1024	4	0
102	2	0x10+4
		4x10+2
		42

Study:
- prime number
- palindromes
- GCD
- practice problems from chapter 5 ppt
- printing triangles