1.  a. The following statement should determine whether count is within the range of 0 through 100. What is wrong with? Write your corrected version in the space below:
   
   if (count >= 0 | count <= 100)

   Your Answer: 

   b. The following statement should determine whether count is outside the range of 0 thought 100. What is wrong with? Write your corrected version in the space below:
   
   if (count <0 && count > 100)

   Your Answer: 

2. What is the output of the following program?

   public class Two
   {
     public static void main (String[] args)
     {
       int num = 2;
       for (int power = 1; power <= 8; power+=2)
       {
         num *= 3;
         System.out.println (num);
       }
   }

   Your Answer: 

   . . . . . . . .
   . . . . . . . .
   . . . . . . . .
   . . . . . . . .

3. What is the output of the following program?

   public class Three
   {
     public static void main (String[] args)
     {
       int count = 5, y, z;
       y = ((count > 5) ? 12 : 15%3);
       z = ((count > 4) ? 12 : 15/3);
       System.out.println("y = " + y + "t" + "z = " + z); 
   }

   Your Answer: 

   . . . . . . . .
   . . . . . . . .
   . . . . . . . .
   . . . . . . . .


4. What does the following program display?

```java
public class Four {
    public static void main (String[] args) {
        int product = 1;
        int counter = 2;
        while (counter < 6) {
            product *= counter;
            counter++;
            System.out.print("\t" + product + "\t");
        }
        System.out.println();
    }
}
```

(a) 1 2 6 24
(b) 2 8 16 90
(c) 2 3 4 5
(d) 2 6 24 120

5. What is the output of the following program?

```java
public class Five {
    public static void main (String[] args) {
        int loopCount = 1;
        System.out.print('A');
        while (++loopCount <= 7) {
            System.out.print('B');
            loopCount += 3;
        }
        System.out.print('C');
    }
}
```

(a) ABC
(b) ABBBC
(c) ABBC
(d) None of the above

6. What is the output of the following program?

```java
public class Six {
    public static void main (String[] args) {
        int count = 5, i;
        for (i = count; i >= 0; i--)
            System.out.print("\t" + count * i + "\t");
            if (i % 3 == 0)
                System.out.println();
    }
}
```

Your Answer:

```
  . . . . .
  . . . . .
  . . . . .
```

2
7. What is the output of the following program?

```java
public class Seven {
    public static void main (String[] args) {
        int count = 0;
        for (int row = 0; row<30; row+=2) {
            for (int col = 0; col<10; col++)
                count+=4;
        }
        System.out.println("The answer is: "+ count);
    }
}
Your Answer:
```

8. What is the output of the following program?

```java
public class Eight {
    public static void main (String[] args) {
        int count = 1;
        while (count < 40) {
            System.out.println("count is "+ count);
            count+=8;
        }
    }
}
Your Answer:
```

9. Convert the following while loop to a for loop:

```java
int count = 0;
while (count <= 10) {
    System.out.println("count is "+ count);
    count++;
}
Your Answer:
```
10. What is the output of the following program?

```java
public class Ten {
    public static void main (String[] args) {
        for(int i = 0; i <= 40; i += 10) {
            System.out.println("The answer is " + 10*i);
        }
    }
}
```

Your Answer:
```
10
20
30
40
```

11. What is the output of the following program?

```java
import java.text.DecimalFormat;
public class Eleven {
    public static void main(String[] args) {
        double number1 = 0.12;
        double number2 = 0.05;
        DecimalFormat formatter = new DecimalFormat("#0%);
        System.out.println(formatter.format(number1));
        System.out.println(formatter.format(number2));
    }
}
```

Your Answer:
```
12%
5%
```

12. What is the output of the following program if the input is “GO”? How do you stop the program?

```java
import java.util.Scanner;
public class Twelve {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        String input;
        char sure;
        do {
            System.out.print("Are you sure you want to quit? ");
            input = scanner.next();
            sure = input.charAt(0);
        } while (sure != 'Y' && sure != 'N');
    }
}
```

Your Answer:
```
Are you sure you want to quit? 
To stop the program? 
```
13. Write a `for` loop that calculates the total of the following series:

\[
\frac{1}{10} + \frac{2}{9} + \frac{3}{8} + \ldots + \frac{10}{1}
\]

Your Answer:

```
... ...
... ...
... ...
... ...
... ...
```

14. Write the following statement in the form of an if-else statement.

\[ x < y \ ? \ q = 0: \ q = 1; \]

Your Answer:

```
... ...
... ...
... ...
... ...
```

15. What is the output of the following program if the input string is “This is test 2”?

```java
import java.util.Scanner;

public class Fifteen {
    public static void main(String[] args) {
        String str;
        Scanner scan = new Scanner(System.in);
        System.out.println("Enter a string of characters:");
        str = scan.nextLine();
        for (int index=0; index < str.length(); index++)
            System.out.println(str.charAt(index));
    }
}
```

Your Answer:

```
... ...
... ...
... ...
... ...
... ...
... ...
... ...
... ...
... ...
... ...
... ...
... ...
```

5
16. What is the output of the following program if the input integer is 8?

```java
import java.util.Scanner;

public class Sixteen {
    public static void main(String[] args) {
        int ans = 0, value;
        Scanner scan = new Scanner(System.in);
        System.out.print("Enter a positive integer: ");
        value = scan.nextInt();
        if (value < 2) {
            System.out.println("The value must be greater than two.");
        } else {
            for (int count = 2; count <= value; count+=2) {
                ans += count;
            }
            System.out.println("The result of integers from 2 to "+value + " is " + ans);
        }
    }
}
```

Your Answer:
```
.*.*.*.* .
.*.*.*.* .
.*.*.*.* .
```

17. What is the output of the following program?

```java
public class Seventeen {
    // Prints a shape using asterisk (star) characters.
    public static void main(String[] args) {
        final int LIMIT = 5;
        for (int row = 1; row <= LIMIT; row++) {
            for (int star = 1; star <= LIMIT-row+1; star++)
                System.out.print("*");
            System.out.println();
        }
    }
}
```

Your Answer:
```
.*.*.*.* .
.*.*.*.* .
.*.*.*.* .
.*.*.*.* .
.*.*.*.* .
```