# CSE110 Review Questions (Solutions)

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# 1 Loops - Control Structures

**Question 1** Write a loop that reads in int values until the user enters 0 and prints out how many values entered are greater than 10.
Answer:

```
Scanner scan = new Scanner(System.in);
int input = scan.nextInt();
int numGreater10 = 0;
while (input != 0) {
        if (input > 10)
                numGreater10++;
        input = scan.nextInt();
}
System.out.print("There are " + numGreater10 + " numbers larger than 10.");
```

**Question 2** Write a loop that will print out every other letter in a String str. For example, if the String was "Hello There", then "HloTee" will be printed.
Answer:

```
for (int j = 0; j < str.length(); j += 2) {
        System.out.print(str.charAt(j));
}
```

**Question 3** What is the output of the following loop? How many times does the loop execute?

```
int n = 979;
for (int j = 0; j <= n; j++) {
        System.out.println("Hello");
}
```

Answer: Hello (980 times)

**Question 4** What is the output of the following loop? How many times does the loop execute?

```
int j = 1;
int n = 5;
while (j <= n) {
        System.out.println("Hello");
        n--;
}
```

Answer: Hello (5 times)

**Question 5**   What is the output of the following loop? How many times does the loop execute?

```java
int n = 5;
for (int j = 1; j <= n; j += 3) {
        System.out.print("Hello ");
        int k = j;
        while (k < n) {
                System.out.println("Good Morning");
                k++;
        }
        j--;
}
```

Answer:
Hello Good Morning
Good Morning
Good Morning
Good Morning
Hello Good Morning
Good Morning
Hello

**Question 6**   What is the output of the following loop? How many times does the loop execute?

```java
int j = 1;
while (j <= 11) {
        System.out.println("Hello");
        j = j + 3;
}
```

Answer: Hello (4 times)

**Question 7**   What is the output of the following code?

```java
String name = "Richard M. Nixon";
boolean startWord = true;
for (int i = 0; i < name.length(); i++) {
        if (startWord)
                System.out.println(name.charAt(i));
        if (name.charAt(i) == ' ')
                startWord = true;
        else
                startWord = false;
}
```

Answer:
R
M
N

**Question 8**   What is the output of the following code?

```java
int n = 1, i = 1;
while (i < 7) {
        n = n * i;
        i += 2;
}
System.out.print(n);
```