

Week 3

while Loops

1. Describe the syntax of a `while` loop.
2. List in three or four steps, the actions of a `while` loop.
3. Consider the following code:

```
public class StepCount {
    public static void main(String[] args){
        int stepCount = 0;

        while(stepCount < 10){
            System.out.println(stepCount);
        }
    }
}
```

What will the above program print?

do-while Loops

1. Describe the syntax of a `do-while` loop.
2. List in three or four steps, the actions of a `do-while` loop.
3. What is the main difference between `while` and `do-while` loops?

for Loops

1. Describe the syntax of a `for` loop.
2. Which other loop is most similar to a `for` loop?
3. Write code that makes a `for` loop print "Meow" on new lines infinitely.
4. Consider the following code:

```
public class TrainerCard {
    public static void main(String[] args){
        for(int i = 0; i < 10; i++){
            System.out.println("Pokemon!!");
        }
    }
}
```

What will the above code print?

5. Consider the following code:

```
public class PokedexCount {
    public static void main(String[] args){
        for(int i = 0; i < 3; ){
            i++;
        }
        System.out.println(i);
    }
}
```

What will the above code print?

Terminating Loops

1. Describe the purpose of the `continue` keyword.
2. Consider the following code:

```
public class Logic {
    public static void main(String[] args){
        int a = 0;
        int b = 1;
        int c = 2;
        int d = 3;

        // A
        while(a < b){
            // B
            while(c < d){
                break;
                c++;
            }
            // C
            a++;
        }
        // D
        System.out.println("Mew was here!");
    }
}
```

When the `break` statement is executed, which section of code is executed next? (A, B, C or D)

3. Write a program that requests a String input from the user, prints the inputted String and repeats until the word 'quit' is entered. Here is an example scenario:

```
Please enter a word: woof
You entered ... woof
Please enter a word: meow
You entered ... meow
Please enter a word: quit
Quitting
```

4. What is a sentinel value?

Loop Errors

1. List two ways to unintentionally create an infinite loop.
2. Write a `while` loop that prints the word "Pika" five times on the same line.