

Lecture 11: Loops

Clicker Question 1:

What is the value of tempSum after this while loop is terminated?

```
int tempSum = 0;
while(tempSum < 10) {
tempSum += 3;
}
```

- a) 10
- b) 9
- c) 12
- d) loop will never terminate

Answer: C

Explanation: TempSum will continue to increment by 3 until it is greater than 10, as per the requirements to continue the while loop. On the third run, tempSum will be 9. When we increment, it will be 12. Since this is greater than 10, the while loop terminates.

Clicker Question 2:

What's the difference between these two loops?

Loop 1: Loop 2:

```
while(!_andyIsAway) { do {
    _tas.takeADayOff(); _tas.takeADayOff();
}} while (!_andyIsAway);
```

- A In the second loop, the condition is tested before the body
- B In the second loop, the TAs always take at least 1 day off
- C In the first loop, the body is executed before the condition is tested.
- D There is no difference between the two loops

Answer: B

Explanation: A do while loop will always run through at least once, regardless of the condition. So, the TAs will always take at least 1 day off.

Clicker Question 3:

In the loop, what is the value of i upon exit?

```
boolean isDone = false;
```

```
int i = 0;
while (!isDone){
    i++;
    if(i == 5){
        isDone = true;
    }
}
```

- A. 4
- B. 5
- C. 6

Answer: B

Explanation: The loop will continue to run until the Boolean is true. isDone is set to true when i=5, after which the loop terminates. At this point, i will have a value of 5.

Clicker Question 4:

Given the following code:

```
Num = 2016;
Do {
    Num--;
} while (num < 2016);
```

What do you expect will happen?

- A. Loop will never end
- B. Loop will run 2016 times (until num is 0) then end
- C. Loop will run only once

Answer: A

Explanation: The first mandatory run through of the do while loop will set num to 2014. After this, num is always less than 2016, so the while loop will continue infinitely.