

Quiz 6: While loops SOLUTION

CSCI 110 Section 1

Monday, August 29, 2016

- 1) Fill in the blanks to print "can't touch this" 26 times. [30 points]

```
int i = 1;
while (i <= 26) {
    System.out.println("can't touch this");
    i += 1;
}
```

There are a bunch of different correct answers to this question.

- 2) What's the value of y after this code runs? [20 points]

```
int x, y;
x = 5;
y = 100;
while (x > 2) {
    y = y - 2;
    x -= 1;
    System.out.println("break it down");
}
```

y == 94

- 3) Does the following while loop terminate? Why? (for this question assume floats don't overflow) [20 points]

```
float x, y, z;
x = 50;
y = 40;
z = 30;
while (x > y || y > z) {
    x += 2;
    System.out.println("hammertime");
    y += 1;
}
```

No. It doesn't terminate since more gets added to x per iteration than gets added to y.

- 4) Use a while loop to calculate the product of the integers between 2 and 20 (inclusive).
[30 points]

```
long p = 1;
int i = 2;
while (i <= 20) {
    p *= i;
    i += 1;
}
```

A “long” is an integer that can hold bigger numbers, although I didn’t take points off if you used an int for this question.

- 5) Use while loops to print a multiplication table (1 through 12). Remember that `System.out.println` prints a newline after the String you give it, while `System.out.print` does not. Tip: use the tab character `\t` like in `System.out.println("1\t2\t3")` to make numbers line up in columns. [extra credit, 40 points]

```
int h = 1;
int v = 1;
while (h <= 12) {
    while (v <= 12) {
        System.out.print(h * v + "\t");
        v += 1;
    }
    System.out.print("\n");
    h += 1;
    v = 1;
}
```

Try out this repl.it example that prints out a 6x6 multiplication table:

<https://repl.it/DAOp>