

CS 120 Final Exam of Joy!

LOOPS

1) What does this code print?

```
int a = 1;
for(int b = 2; b < 10; b++)
{
    a=2;
}
System.out.println(a);
```

2) How many lines does this print?

```
int x = 10;
while (x < 20)
{
    x = x + 4;
    System.out.println("Airplanes are cool!");
}
```

3 & 4) Make me a loop that runs as follows. Pick **one**. Show me on the computer.

One point – 21,22,23,24,25

Two points – 25, 22, 19, 16, 13, 10

IF STATEMENTS

5) What does this print?

```
double speed = 3000;
if (speed < 1000) {
    System.out.println("Too fast");
}
else if (speed > 1000) {
    System.out.println("Medium");
}
else if (speed == 3000) {
    System.out.println("Just right");
}
else {
    System.out.println("Bad data");
}
```

6) What does this print?

```
double altitude = 500;
if (altitude == 500) {
    System.out.println("Just right");
}
if (altitude > 500) {
    System.out.println("Too high");
}
if (altitude < 500) {
    System.out.println("Too low");
}
```

7) Which of these are true? Circle zero or more.

```
int ten = 10, five = 5;
if (ten == 10 && five == 4)
if (ten == 10 && five == 5)
if (ten == 10 || five == 4)
if (ten == 10 || five == 5)
```

PROGRAM STRUCTURE

8) Which method runs first? (Choose exactly one.)

```
repaint()
The paint of the main class.
The mouseClicked of the main class.
```

9) Except for the US, Canada and England, name any country that speaks English.

10) (True/False) Every program must have at least two classes.

11) (True/False) Every class must have a method named paint().

12) (True/False) Given that my function is declared like this:

```
public void fred(int input)
it could reasonably contain the line
return input*2;
```

ARRAYS

13) Write me some code (here on this test) that creates an array called 'plane' that holds 30 doubles. I just want one line of code.

14) Write me some code (here on this test) that sets every element of 'plane' to a 20. I want less than 7 lines of code.

15) Use a verb to describe your feelings on arrays.

16) (True/False) An array must hold things of only one type. If some element of the array is an integer, then the array only holds integers. If some element of the array is a String, then every element of the array is a Strings.

17) The array has 10 elements. What does this code do?

- It finds the maximum of the array
- It finds the minimum of the array
- It finds the sum of the array
- It finds the average of the array
- It does something else

```
int a = array[0];
for(int i = 1; i = 10; i++)
{
    a = a + array[i];
}
System.out.println("a");
```

CODE -Get 12 points maximum!

Getting the object based program to work – 7 point max

<http://euclid.nmu.edu/~rappleto/Classes/CS120/Tests+Quizes/cs120final2016Winter/dogscene.java>

Getting the array based program to work – 8 points max

<http://euclid.nmu.edu/~rappleto/Classes/CS120/Tests+Quizes/cs120final2016Winter/arrayQuiz.java>

Oval Program – 5 points max

- +1 Draws an oval
- +1 It moves left/right/up/down based on typing the keyboard array keys
- +1 It moves to wherever you click the mouse
- +1 It goes back to the center when you press the space bar
- +1 The background turns red/blue if the oval is high/low on the screen.

W Program – 3 points max

- +0 There is a count on the screen
- +1 It goes up when I press 'w'
- +1 It goes down when I press 's'
- +1 It never goes above 7.