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Homework 1 – Introduction to Java Programming in Netbeans

Aim

This homework sheet should be done AFTER your lab 1 sheet is completed. The aim is to give you additional challenges.

Tips:

1. If you can't complete these challenges, check your lecture notes, or ask in your lab next week.

2. Complete the sheet AFTER completing lab 1. If you finished lab 1, you may do this sheet in class.

Creating and Using Variables

- In your lab, you created a class called Lab1Hello, which looked like:

```
Hello Andrew

Hello Joe

My name is Andrew, and I'm a lecturer in CSSE

My name is Andrew, my school was Montrose, and my hometown is
Arbroath.

Name: Andrew, Age: 32, Student number: 12345678
```

- You'll notice that my name is repeated 4 times in the above text. If I wanted to change it, I COULD change all the code each time. This could be difficult in a big program and could cause errors if I forgot to change one.

- By creating a variable and using it, we can save time, and prevent errors.

- **Create** and **initialise** a new String variable, at the start of the main method, and give it a value equal to your name

- Remember, a variable must have a type (in this case, a String), and a useful name. Something like "myName".

```
String myName = "Andrew";
```

- Replace your name in the System.outs with your new variable.

- You can concatenate your strings together with a +, i.e.

```
System.out.println("Hello" + "Andrew");

System.out.println("Hello "+yourName);
```

- Now create int (for numbers) and other String variables to cover all the different bits of information, such as ID number, Major, Hometown etc.

- You should have a series of statements with int and String variables combined in the System.outs. Run it to ensure it looks correct.

- The big test….Can you replace all the variable values with the details of a classmate, and have your program still display output that makes sense?

- To do this, replace the value of your name variable with your classmates name, replace your interest with their interest, and run the program.

More Arithmetic in Java

- In your lab 1, you created a class called Calculations, which contained a calculation such as

```
int calculation = num1 * num2 + num3 - num4  /  num5;
```

- Modify your Calculations class further to add 3 extra calculations using the same variables. Calculate the answer on paper first.

- Store each of your calculations in a different variable and display them in a System.out, with an output such as "The answer for calculation one is…"

- Check that your answer matches your calculation. If not, try to learn why.

- Try a div calculation, something like num1/num2. Experiment with several numbers. Do they give you the answer you expect? If not, why not? If you are not sure, in the lab.

- Try 1 / 2, 18 / 5, as well as other numbers.