Lab 1 Worksheet

1. What if 12 bits were used to store a signed integer. What is the biggest/smallest possible integer?

The largest is 2047 and the smallest is -2048.

2. Think about possible values and their range, say what type of variable would be suitable for the following, and suggest a name for it too.

For example: the temperature of a room in degrees Fahrenheit. Room temperature is likely to vary between say 50 degrees F and 100 degrees F, but it can take any value in between including non-integers, e.g 71.19 F, so the type must be float or double depending on the accuracy required. A suitable variable name would be roomTemp.

(i) The number of pages in a book;

Type: int , Name: int pageCount

(ii) The number of atoms in a book;

Type: float, Name: float atomCount

(iii) The length of a side of a triangle in inches;

Type: double , Name: double sideLength

(iv) Your name;

Type: String , Name: String Shayan

(v) Whether or not a nucleus has decayed;

Type: Boolean , Name: boolean hasDecayed

(vi) The probability that it could have decayed.

Type: float , Name: float decayProb

3. Start to do a little java programming!
Follow the example of the Hello.java program and do some testing of Java int and float.
Write a short class called “Arithmetic” that in its main method does the following:

Creates 4 local variables
Two ints (call them a and b)

Two floats (call them x and y)
Performs the following arithmetic operations on every combination of two of these
and output using System.out.println each of the results
Addition
Division (in both directions)