**LAB 9**

**Exceptions and ArrayLists**

1. Write 4 sample pieces of code the generates each one of the following, respectively:
2. An ArithmeticException.
3. A NullPointerException.
4. An IndexOutOfBoundsException.
5. An IllegalArgumentException.
6. A CastClassException.

For each of the above exceptions, write a statement about why your program caused this exception. And if possible, suggest a fix. **(5 points)**

1. Write a program that uses three ArrayLists of (x, y) co-ordinates of 1000 entries each. Your code should output whether the three associated vertices form the corners of a right triangle. So, all-in-all you would get 1000 results.

Note: The decision is yours as to how the ArrayList is populated. An appropriate answer would have approximately half the output as ‘Yes’ and the other half as ‘No’.

In your output, aggregate the Yes’es and No’es and print the total count of each (instead of printing 1000 entries). **(5 points)**