**Assignment 3**

**Question 1:**

**Creating an Abstract Superclass and Concrete Subclass**

Create an abstract superclass named **Fruit** and a concrete subclass named **Apple**. The superclass should belong to a package called **food** and the subclass can belong to the default package (meaning it isn't put into a package explicitly). Make the superclass public and give the subclass default access.

**Question 2:**

Create a float variable with any valid value, and assign it to a short using casting.

**Question 3:**

Create switch-case statement using a char value as the case (total 5 cases). Include a default behavior if none of the char values match. (Use any example you can imagine)

**Question 4:**

**Handling exceptions**

Create a class named **Division.** In main() method, create a for loop which iterates 100 times. Each of the time, create a random number between -5 to +5 (inclusive). Now, divide the number “121721” by this random number. Print the output in format “<Numerator></><Denominator><=><Output><newline>”. You need to handle the exception occurred when the generated random number is 0.

**Question 5:**

Write java class which has functionality to calculate factorial of a number (use recursion)