Problem 1: Modeling BetaTester Use Cases (Outcome K)
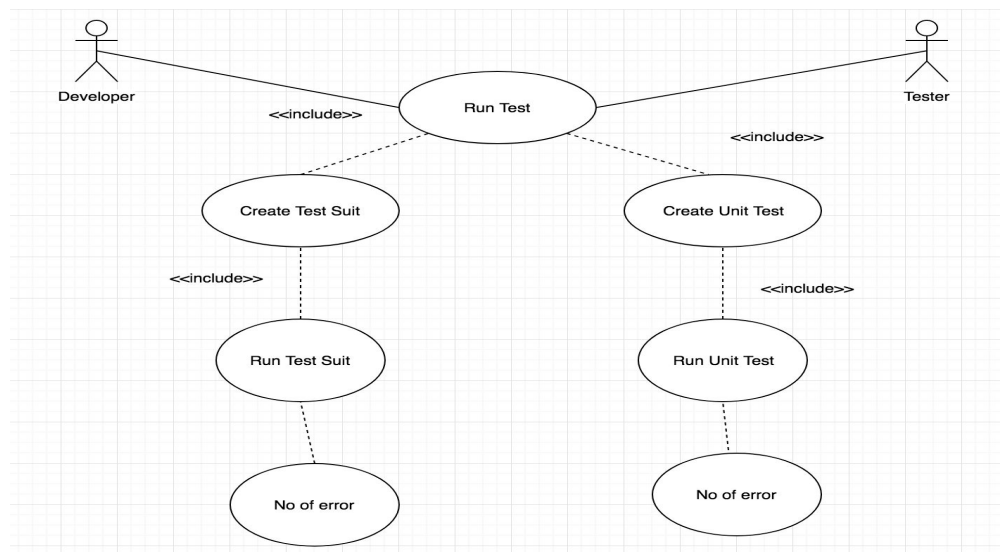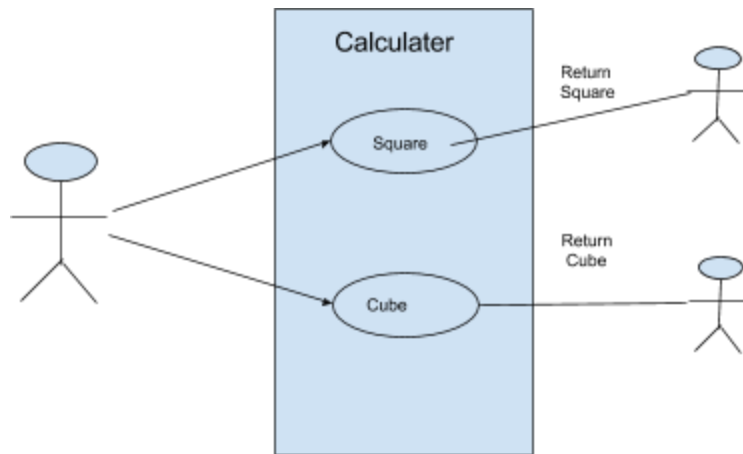
Problem 2: Designing BetaTester (Outcome K)

**<<Interface>>
BetaTester**

+run(); //for run test

TestSuit

+ list:<Beta Tester>

+add(BetaTester);
+run();
+ clear();

UnitTest

+ map:HashMap<Domain,Range>
+ name:String
+function:Function<Domain,Range>
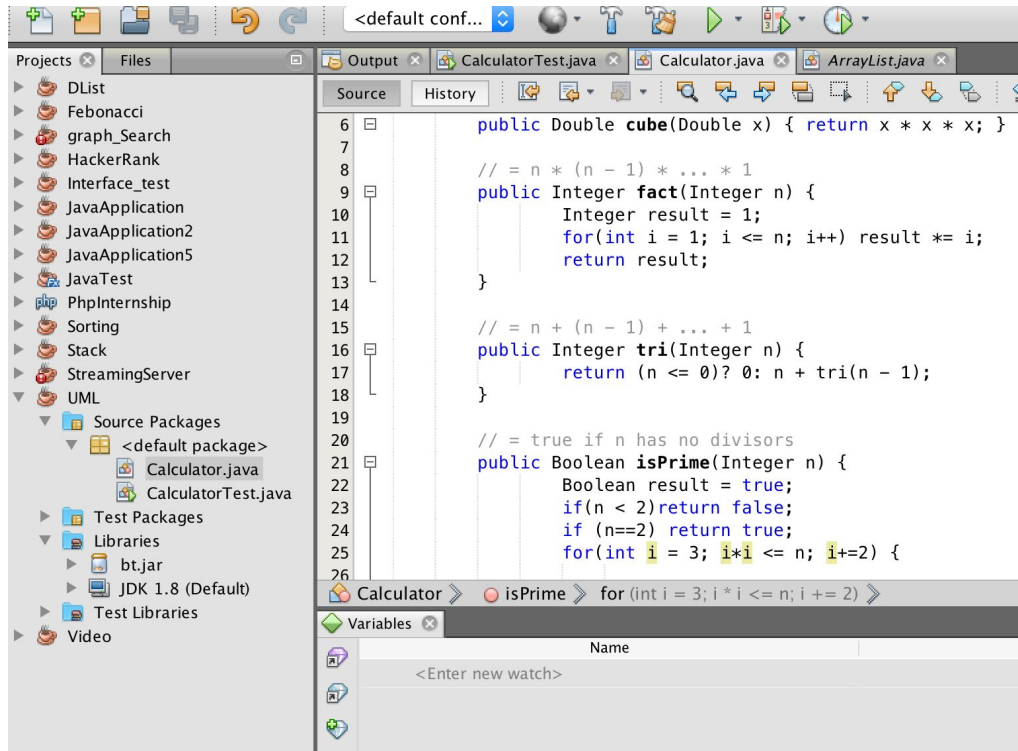
+ UnitTest();
+put(input,output);
+ run();
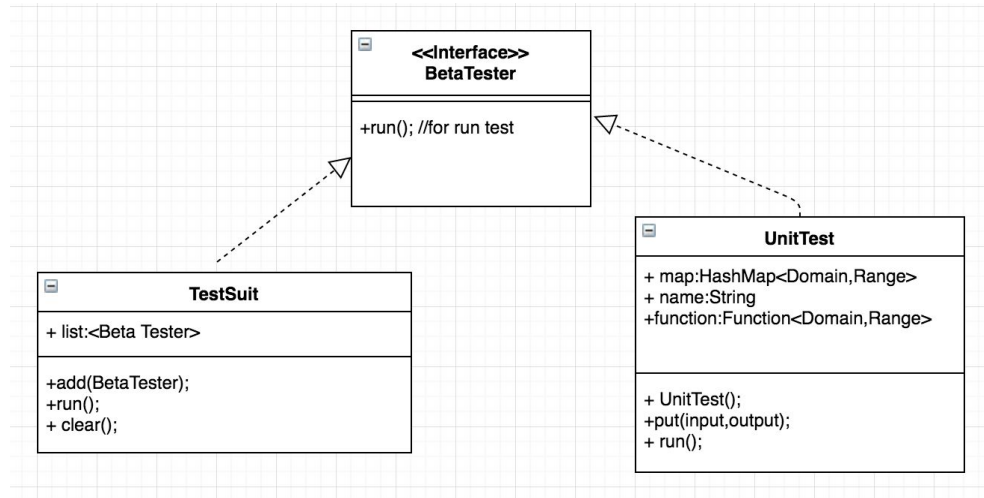
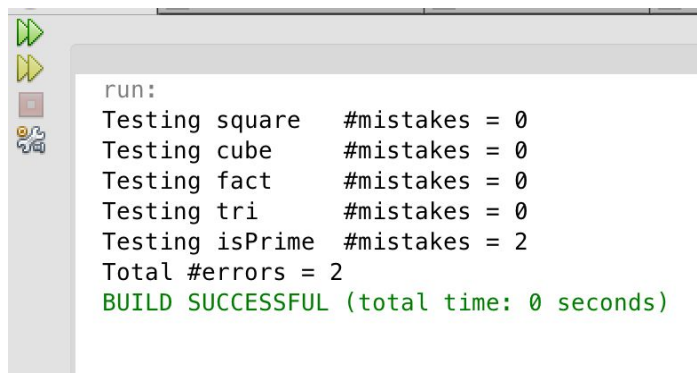**Did you use a design pattern? If so, which one?**

Ans : Strategy pattern

Problem 3: Using BetaTester (Outcome I)

How comfortable are you with your IDE? Power user? Just the basics? Intimidated by it? Let's see.
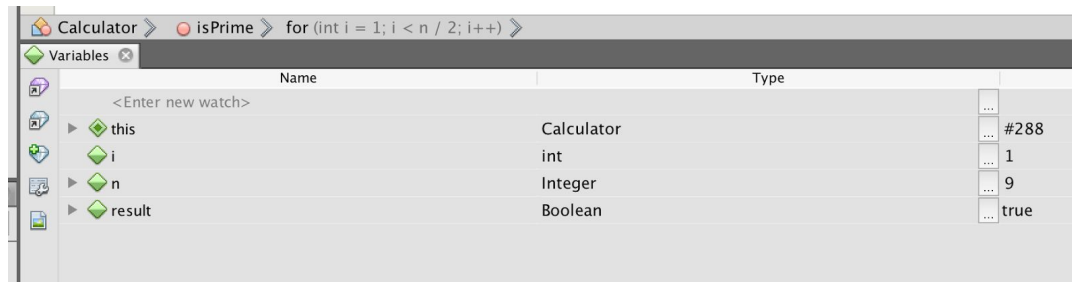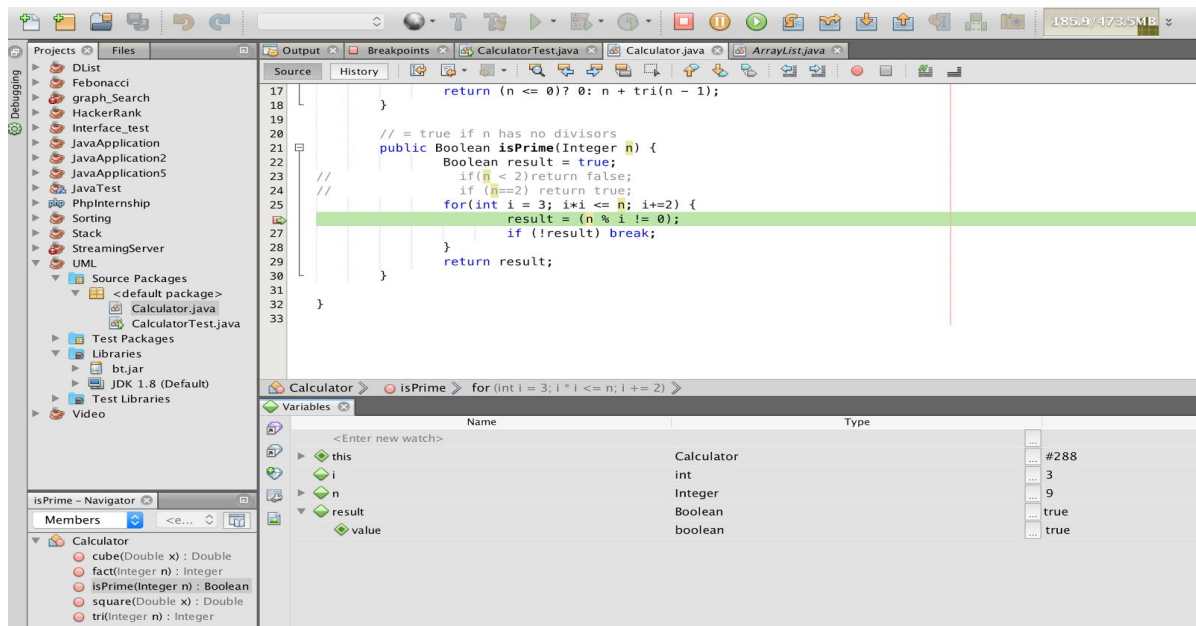
Setup

First Output

Problem 4: Debugging Calc.java (Outcome I)

Apparently Calculator.isPrime contains a few bugs. Set a breakpoint inside of this method. Step through it. Submit a screen shot of the debugger window showing the local variables of isPrime at the point of error.

Debugger pic

Describe the bug? How would you fix it?

The for loop starts off with i = 1, hence the result is set to false for every number because every number is divisible by 1. Hence, the test cases for n = 9,1 showed error

Fixed Code

```java
// = true if n has no divisors
public Boolean isPrime(Integer n) {
    Boolean result = true;
    if(n < 2)return false;
    if (n==2) return true;
    for(int i = 3; i*i <= n; i+=2) {

        result = (n % i != 0);
        if (!result) break;
    }
    return result;
}
}
```

```
run:
Testing square    #mistakes = 0
Testing cube      #mistakes = 0
Testing fact      #mistakes = 0
Testing tri       #mistakes = 0
Testing isPrime   #mistakes = 0
Total #errors = 0
BUILD SUCCESSFUL (total time: 0 seconds)
```

Problem 5: And now for a brief survey (Outcome H)

Give short answers (< 50 words) to the following questions.

H1. Describe an important technology that has emerged in the past five years.

1. AI
2. Machine Learning
3. Data mining
4. Big Data, NoSQL
5. Computer vision

H2. Describe one technical area where you lack needed expertise.

Ans : Machine Learning because i did not took any course related to that and even did not tries by myself.

H3. Describe a technical skill that you recently acquired and applied to a project.

Ans: Learned Django framework

first large scale experience with python

H4. In your words, why do computer professionals need to continuously learn new skills and technologies?

Ans: New technology coming every year therefore companies requirement also changing according to future. If computer developer want to stay at JOb they must learn new skill. Also AI technology is expanding therefore simple programming skill is not enough.