Probacalculator.java

```
import java.lang.reflect.Array;
import java.util.Random;
import java.util.ArrayList;

public class ProbabiltyCalculator {
   public static ArrayList<Double> RandSumRolls = new ArrayList<Double>();
   public static ArrayList<Double> AverageSum = new ArrayList<Double>();
  public static ArrayList<Double> Variance = new ArrayList<Double>();
  static double Num_of_Rolls = 5000000;
  static int experiment_Repeated = 20;
   static double Average_Sum_value = 0;

   public static void main() {
      //for (int j = 0; j < experiment_Repeated; ++j) {
      double prob2 = 0;
      double prob3 = 0;
      double prob4 = 0;
      double prob5 = 0;
      double prob6 = 0;
      double prob7 = 0;
      double prob8 = 0;
      double prob9 = 0;
      double prob10 = 0;
      double prob11 = 0;
      double prob12 = 0;



      double counter2 = 0;
      double counter3 = 0;
      double counter4 = 0;
      double counter5 = 0;
      double counter6 = 0;
      double counter7 = 0;
      double counter8 = 0;
      double counter9 = 0;
      double counter10 = 0;
      double counter11 = 0;
      double counter12 = 0;

      double six2 = 0;
      double six3 = 0;
      double six4 = 0;
      double six5 = 0;
      double six6 = 0;
```

```
double six7 = 0;
double six8 = 0;
double six9 = 0;
double six10 = 0;
double six11 = 0;
double six12 = 0;

for (int i = 0; i < Num_of_Rolls; i++) {
    double dice1 = Math.floor(Math.random() * 6 + 1);
    double dice2 = Math.floor(Math.random() * 6 + 1);
    double SumofDice = dice1 + dice2;

    RandSumRolls.add(SumofDice);

    if (SumofDice >= 2 && SumofDice < 13) {
        if (SumofDice == 2) {
            counter2++;
            if (dice1 == 6 || dice2 == 6) {
                six2++;
            }
            prob2 = six2 / counter2;
        }
        if (SumofDice == 3) {
            counter3++;
            if (dice1 == 6 || dice2 == 6) {
                six3++;
            }
            prob3 = six3 / counter3;
        }
        if (SumofDice == 4) {
            counter4++;
            if (dice1 == 6 || dice2 == 6) {
                six4++;
            }
            prob4 = six4 / counter4;
        }
        if (SumofDice == 5) {
            counter5++;
            if (dice1 == 6 || dice2 == 6) {
                six5++;
            }
            prob5 = six5 / counter5;
        }
        if (SumofDice == 6) {
            counter6++;
            if (dice1 == 6 || dice2 == 6) {
                six6++;
            }
```

```
            prob6 = six6 / counter6;
        }
        if (SumofDice == 7) {
            counter7++;
            if (dice1 == 6 || dice2 == 6) {
                six7++;
            }
            prob7 = six7 / counter7;
        }
        if (SumofDice == 8) {
            counter8++;
            if (dice1 == 6 || dice2 == 6) {
                six8++;
            }
            prob8 = six8 / counter8;
        }
        if (SumofDice == 9) {
            counter9++;
            if (dice1 == 6 || dice2 == 6) {
                six9++;
            }
            prob9 = six9 / counter9;
        }
        if (SumofDice == 10) {
            counter10++;
            if (dice1 == 6 || dice2 == 6) {
                six10++;
            }
            prob10 = six10 / counter10;
        }
        if (SumofDice == 11) {
            counter11++;
            if (dice1 == 6 || dice2 == 6) {
                six11++;
            }
            prob11 = six11 / counter11;
        }
        if (SumofDice == 12) {
            counter12++;
            if (dice1 == 6 || dice2 == 6) {
                six12++;
            }
            prob12 = six12 / counter12;
        }
    }

    // System.out.println("[" + prob7 +"\n"+  prob8 +"\n"+ prob9 +"\n"+ prob10+ "]");
}
```

```
    Average_Sum_value = (2 * counter2 + 3 * counter3 + 4 * counter4 + 5 * counter5 + 6 * counter6 + 7 *
counter7
            + 8 * counter8 + 9 * counter9 + 10 * counter10 + 11 * counter11 + 12 * counter12) /
Num_of_Rolls;

    //Double Average_i = Average_Sum_value;
    //AverageSum.add(Average_i);

      /* System.out.println("[" + prob2 + " " + prob3 + " " + prob4 + " " + prob5 + " " + prob6 + " "
            + prob7 + " " + prob8 + " " + prob9 + " " + prob10 + " " + prob11 + " " + prob12 + " ]"); */


  }


}

    //for (Double aDouble : AverageSum) {
      //  System.out.println(aDouble);
```

Projectdata.java

```
import java.lang.reflect.Array;
import java.util.ArrayList;


public class ProjectData{

  public static void main(String[] args) {
     ProbabiltyCalculator.main();
     for (int i =0; i < ProbabiltyCalculator.RandSumRolls.size(); ++i){
        double summand = Math.pow(ProbabiltyCalculator.RandSumRolls.get(i)
-ProbabiltyCalculator.Average_Sum_value,2);
        Double Summation = summand;
        ProbabiltyCalculator.Variance.add(Summation);
     }
     double Variance_summand =0;
     for(Double aDouble : ProbabiltyCalculator.Variance){
        Variance_summand += aDouble;
     }
     System.out.println(ProbabiltyCalculator.Average_Sum_value);
     System.out.println(Variance_summand / ProbabiltyCalculator.Num_of_Rolls -1);
     }



  }
```

Javascript/React.js

```
let counter2=0;
let counter3=0;
let counter4=0;
let counter5=0;
let counter6=0;
let counter7=0;
let counter8=0;
let counter9=0;
let counter10=0;
let counter11=0;
let counter12=0;

let six2 =0;
let six3 =0;
let six4 =0;
let six5 =0;
let six6 = 0;
let six7=0;
let six8 =0;
let six9 =0;
let six10 =0;
let six11 =0;
let six12 =0;

let prob2 =0;
let prob3 =0;
let prob4 = 0;
let prob5 = 0;
let prob6 =0;
let prob7 =0;
let prob8 =0;
let prob9 = 0;
let prob10 = 0;
let prob11 =0;
```

```
let prob12 = 0;

let dice1 ;
let dice2;
```

```
for(let i = 0; i < this.state.roll; i++){
 dice1 = Math.floor((Math.random()*6)+1);
  dice2 = Math.floor((Math.random()*6)+1);

let SumofDice = dice1 + dice2;




if(SumofDice >=2 && SumofDice < 13){
  if(SumofDice ===2){
      counter2++;
      if(dice1 ===6 || dice2 ===6){
          six2++;
      }
      prob2 = six2/counter2;
  }
  if(SumofDice ===3){
      counter3++;
      if(dice1 ===6 || dice2 ===6){
          six3++;
      }
      prob3 = six3/counter3;
  }
  if(SumofDice === 4){
      counter4++;
      if(dice1 ===6 || dice2 ===6){
          six4++;
      }
      prob4 = six4/counter4;
```

```
  }
  if(SumofDice ===5){
      counter5++;
      if(dice1 ===6 || dice2 === 6){
          six5++;
      }
      prob5 = six5/counter5;
  }
  if(SumofDice ===6){
    counter6++;
    if(dice1 ===6 || dice2 === 6){
        six6++;
    }
    prob6 = six6/counter6;
}
if(SumofDice === 7){
      counter7++;
      if(dice1 === 6 || dice2 === 6){
          six7 ++;
      }
      prob7 =six7 / counter7;
  }
  if(SumofDice === 8){
      counter8++;
      if(dice1 ===6 || dice2 ===6){
          six8++;
      }
   prob8 = six8/ counter8;
  }
  if(SumofDice === 9){
      counter9++;
      if(dice1 === 6 || dice2 ===6){
          six9 ++ ;
      }
  prob9 = six9/ counter9;
  }
  if(SumofDice === 10){
```

```
      counter10++;
      if(dice1 ===6 || dice2 === 6){
          six10++;
      }
      prob10 = six10 / counter10;
  }
  if (SumofDice === 11){
      counter11++;
      if(dice1 ===6 || dice2=== 6){
          six11 ++;
      }
      prob11 = six11/counter11;
  }
  if(SumofDice === 12){
      counter12 ++;
      if(dice1 ===6 || dice2 ===6){
          six12 ++;
      }
      prob12 = six12/counter12;
    }
  }
}
```