Java Assignment - 1

Basic Calculator:

```java
public class BasicCalc
{
    /**
    *      "Number of arguments: 3"
    *      "java BasicCalc number operationType number"
    *      "e.g.: java BasicCalc 4 + 5"
    **/

    public static void main(String args[])
    {
        if(args.length != 3)
        {
            System.out.println("Invalid number of arguments.");
            System.out.println("java BasicCalc <number>
                                    <operationType> <number>");
            System.out.println("e.g.: java BasicCalc 4 + 5");
        }
        int num1 = Integer.parseInt(args[0]);
        char operationType = args[1].charAt(0);
        int num2 = Integer.parseInt(args[2]);

        switch(operationType)
        {
            case '+':
                System.out.print(num1 + "+" + num2 + "=" +
                                            (num1+num2));
                break;
            case '-':
                System.out.print(num1 + "-" + num2 + "=" +
                                            (num1-num2));
                break;
            case '*':
                System.out.print(num1 + "*" + num2 + "=" +
                                            (num1*num2));
                break;
            case '/':
                System.out.print(num1 + "/" + num2 + "=" +
                                            ((float)num1/num2));
                break;
        }
    }  }
```

```
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D:\Learn\Sem-5\Java\Assignments\Assignment-1\BasicCalculator>javac BasicCalc.java

D:\Learn\Sem-5\Java\Assignments\Assignment-1\BasicCalculator>java BasicCalc 5 + 6
5+6=11
D:\Learn\Sem-5\Java\Assignments\Assignment-1\BasicCalculator>java BasicCalc 5 - 6
5-6=-1
D:\Learn\Sem-5\Java\Assignments\Assignment-1\BasicCalculator>java BasicCalc 5 "*" 6
5*6=30
D:\Learn\Sem-5\Java\Assignments\Assignment-1\BasicCalculator>java BasicCalc 5 / 6
5/6=0.8333333
D:\Learn\Sem-5\Java\Assignments\Assignment-1\BasicCalculator>
```

Binary Conversion:

```java
class BinaryConversion
{
    public static void main(String args[])
    {
        int i;
        if(args.length != 2)
        {
            System.out.println("Enter Valid number of arguments.");
            System.out.println("e.g.: java BinaryConversion <value> <conversionType>");
            System.out.println("conversionType: 1 to convert decimal into binary");
            System.out.println("conversionType: 2 to convert binary into decimal");
            System.exit(0);
        }
        int conversionType = Integer.parseInt(args[1]);
        int value = Integer.parseInt(args[0]);

        if(conversionType == 1)
        {
            int decimalValue = Integer.parseInt(args[0]);
            int[] binaryString = new int[10];
            for(i=0;value>0;i++)
            {
                binaryString[i] = (value % 2);
                value = value/2;
            }
            i--;
            for(  ;i>=0;i--)
                System.out.print(binaryString[i]);
        }
```

```java
if(conversionType == 2)
    {
            int binaryValue = Integer.parseInt(args[0]);
            int decimalResult=0; i=0;
            while(binaryValue > 0)
            {
               int temp = (binaryValue % 10);
               decimalResult = decimalResult +(temp *
                                        (int)Math.pow(2,i));

               i++;
               binaryValue = binaryValue / 10;
                }
                System.out.println(decimalResult);
            }


        }

}
```

Currency Converter:

```java
class CurrencyConverter
{
    public static void main(String args[]){
        if(args.length != 2)
        {
            System.out.println("Enter a valid number of
                                        arguments.");
            System.out.println("e.g.: java CurrencyConverter
                            <currency> <conversionType>");
            System.out.println("conversionType: 1 to convert USD
                                            to INR");
            System.out.println("conversionType: 2 to convert INR
                                            to USD");
            System.exit(0);
        }
        int currency = Integer.parseInt(args[0]);
        float rate = 70;
        int currencyType = Integer.parseInt(args[1]);
        if(currencyType == 1)
            System.out.println("$" + currency + " = " +
                                    (currency*rate) + "INR");
        else
            System.out.println("INR" + currency + " = " +
                                        (currency/rate) + "$");

    }
}
```

```
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D:\Learn\Sem-5\Java\Assignments\Assignment-1\CurrencyConverter>javac CurrencyConverter.java

D:\Learn\Sem-5\Java\Assignments\Assignment-1\CurrencyConverter>java CurrencyConverter 2
Enter a valid number of arguments.
e.g.: java CurrencyConverter <currency> <conversionType>
conversionType: 1 to convert USD to INR
conversionType: 2 to convert INR to USD

D:\Learn\Sem-5\Java\Assignments\Assignment-1\CurrencyConverter>java CurrencyConverter 8 1
$8 = 560.0INR

D:\Learn\Sem-5\Java\Assignments\Assignment-1\CurrencyConverter>java CurrencyConverter 560 2
INR560 = 8.0$
```

Divisible Numbers:

```java
class DivisibleNumbers
{
    public static void main(String args[])
    {
        //args[0] is n
        //args[1] is n1
        //args[2] is n2
        int n = Integer.parseInt(args[0]);
        int n1 = Integer.parseInt(args[1]);
        int n2 = Integer.parseInt(args[2]);
        while(n1<=n2)
        {
            if((n1 % n) == 0 & n1 != 0)
                System.out.println(n1);
            n1++;
        }
    }
}
```

```
C:\Windows\System32\cmd.exe
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D:\Learn\Sem-5\Java\Assignments\Assignment-1\DivisibleNumbers>javac DivisibleNumbers.java

D:\Learn\Sem-5\Java\Assignments\Assignment-1\DivisibleNumbers>java DivisibleNumbers 5 10 50
10
15
20
25
30
35
40
45
50
```

Prime Numbers:

```java
class PrimeNum
{
    static boolean checkPrime(int number)
    {
        boolean prime = false;
        int temp = 2;
        while(temp <= (number/2) )
        {
            if( (number % temp) == 0)
            {
                return false;
            }
            temp++;
        }
        return true;
    }

    public static void main(String args[])
    {
        int count = Integer.parseInt(args[0]);
        int i=2;
        while(count > 0)
        {
            boolean prime = false;
            prime = checkPrime(i);
            if(prime)
            {
                System.out.print(i + "\n");
                count--;
            }
            i++;
        }

    }
}
```

```
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D:\Learn\Sem-5\Java\Assignments\Assignment-1\PrimeNum>javac PrimeNum.java

D:\Learn\Sem-5\Java\Assignments\Assignment-1\PrimeNum>java PrimeNum 5
2
3
5
7
11
```