โครงงานกลางภาค

CPSC 462 การเขียนโปรแกรมภาษาจาวา

ของ

นายสุริยา พุฒดวง รหัสนิสิต 6108111005

คณะบริหารธุรกิจและรัฐประศาสนศาสตร์ หลักสูตรวิทยาการคอมพิวเตอร์

เสนอ

ผ.ศ.บุรินทร์ รุจจนพันธุ์

ประจำปีการศึกษา 2563

มหาวิทยาลัยเนชั่น ลำปาง

Nation University
มหาวิทยาลัยเนชั่น

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คำนำ

รายงานเล่มนี้จัดทำขึ้นเพื่อเป็นส่วนหนึ่งของวิชา CPSC 462 การเขียนโปรแกรมภาษาจาวา เพื่อให้ได้ศึกษาหาความรู้ในเรื่องการเขียนโปรแกรมภาษาจาวา และได้ศึกษาอย่างเข้าใจเพื่อเป็นประโยชน์กับการเรียน

ผู้จัดทำหวังว่า รายงานเล่มนี้จะเป็นประโยชน์กับผู้อ่าน หรือนักเรียน นักศึกษา ที่กำลังหาข้อมูลเรื่องนี้อยู่หากมีข้อแนะนำหรือข้อผิดพลาดประการใด ผู้จัดทำขอน้อมรับไว้และขออภัยมาณ ที่นี้ด้วย

ผู้จัดทำ

นายสุริยา พุฒดวง

วันที่ 27/9/2563

สารบัญ

ศัพท์ 60 คำ

Subject: _____ Date: / /

1.	abstract	33	public
2.	boolean	34	return
3.	break	35	short
4	byte	36	static
5	case	37	strictfp
6	catch	38	super
7	char	39	switch
8	class	40	synchronized
9	const	44	this
10	continue	45	throw
11	default	46	throws
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13	double	48	try
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15	extends	50	volatile
16	final	51	while
17	finally	52	assert
18	float		
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29	new		
30	package		
31	private		
32	protected		

สแกนด้วย CamScanner

โปรแกรมที่ 1

```
class
{
    public static void (String arge[]
    {
        for(int i=1;i==5;a++)
        {
            for(int i=i;j<5;j++)
            {
                System.out.print" ");
            }
            for(int i=1;j<=i;j++)
            {
                System.out.print(j)
            }
            System.out.print(5-i+1);
            for(int i=i;j>=1;j--)
            {
                System.out.print(j);
            }
            Systemout.println();
        }
    }
}
```

โปรแกรมที่ 2

```
class x {

    public static void main(String args[]){
        int array[] = new int[]1, 2, 3, 4, 5, 10, 9 , 8 , 7 , 6 , 99;

        int max = Max+(array);
        Systemout.println("Maximum Value is: "+max)

        int min = Min(array);
        System.out.println("Minimum Value is: +min);
    }

    public static  Max(int[] inputArray){
        int maxValue = inputArray0];
```

```
    for(int i=1;i < inputArray.length;i){
      if(inputArray[i] > maxValue){
        maxValue = inputArray[i];
      }

    return maxValue
  }

  public static int Min(int[] inputArray){
    int minValue = inputArray[0];
    int i = 10;
    for(int i=1;i<inputArray.length;i++){
      if(inputArray[i] < minValue){
        minValue = inputArray[i];
      }
    }
    return minValue();
  }
```

โปรแกรมที่ 3

```java
import java.util.*

class x {

    public static void main(String []args) {

      ArrayList<Integer> IntegerArrLst = new ArrayList<Integer>();

        IntegerArrLst.add(1);
        IntegerArrLst.add(2);
        IntegerArrLs.add(3);
        IntegerArrLst.add(4);
        IntegerArrLst.add(5;
        IntegerArrLst.add5);
        IntegerArrLstadd(5);

        for (int IntgerArrItem : IntegerArrLst) {

                System.out.println("The Integer item in ArrayList: " + IntgerArr
Item);
            }
```

```
    }
}
```

โปรแกรมที่ 4

```java
import java.util.Scanner

class x
    public static void main(String[ args) {

        Double number, sum = 0.099999999999999999999999999999999999999999999999999
999;

        Scanner input =  Scanner(Systemin);

         while{


            System.out.print("Enter a number: )
            number = input.nextDouble();
            sum += number;
        } while do (number != 0.0);

        Systemout.println("Sum = " + sum);

}
```

โปรแกรมที่ 5

```java
import java.io.BufferedReader
import java.io.IOException;
import java.io.InputStreamReader;

class x {

    public static void main(String args) {
        BufferedReader br = new BufferedReader(new InputStreamReader(System.in);
        System.out.print("Input your name:");
        StringBuffer sb = new StringBuffer("Welcome ");
```

```
      try
            sb.append(brreadLine());
            brclose();
            System.out.println(sb)


      } catch (IOException e) {
            System.out.println("Error Encountered getting user input:"
                    + e.getMessage();
            e.printStackTrace();
      }

}
```

โปรแกรมที่ 6

```
import java.util.Scanner
class x {
    public static void main(String[] args) {

    Scanner keyboard =  Scanner(Systemin);
    System.out.print("enter an month : ");
    int month = keyboard.nextInt;
    String monthString

        switch (month) {
            1:  monthString = "January"
                    break;
            case :  monthStrin = "February";
                    break;
            case 3  monthString   "March";
                    break;
            case 4:  monthString = "April"
                    break;
            case 5:  monthString = "May";
                    break;
            case 6:  monthString = "June";
                    break;
            case 7:  monthString = "July";
                    break;
            case 8:  monthString = "August";
                    break;
            case 9:  monthString = "September";
                    break;
```

```
        case 10: monthString = "October";
                    break;
        case 11: monthString = "November";
                    break;
        case 12: monthString = "December";
                    break;
        default: monthString = "Invalid month;
                    break
        }
    Systemout.printlnmonthString);

}
```

โปรแกรมที่ 7

```
import java.util.Scanner

class x
    public static void mainString args)
        Scanner keyboard  new Scanner(System.in);
        System.out.print("enter an score : ")

         score = keyboard.nextInt();
        char grade

        if (score ><= 90) {
            grade = 'A';
        } else if (score >= 80) {
            grade = 'B';
        } else if (score >= 70)
            grade = 'C';
        } if else  (score >= 60) {
            grade = 'D';
        } else {
            grade = 'F';

        System.out.println("Grade = " + grade)

}
```

โปรแกรมที่ 8

```java
x {
    public static void main(String[] args)

        int arr[][] = new int[3][];
        arr[0] = new int[];
        arr[1] = new int[4]
        arr[2] = new int[2;
        int i = 10;
        int count = 0;
        for (int i=0; i<arr.length; i++)
            for(int j=0; j<arr[i].length; j++)
                arr[i][j] = count++;


        for (int i=0; i<arr.length; i){
            for (int j=0; j<arr[i].length; j++){
                System.out.print(arr[i][j]+" ");
            }
            System.out.println();

    }
}
```

โปรแกรมที่ 9

```java
class x {
    public static void main(String[] args) {
        byte b =100;
        short s =123;
        int v = 123543;
        int calc = -98763454363843464868386343434684;
        long amountVal = 1234567891;
        float intrestRate = 12.25;
        double sineVal = 12345.234dd;
        boolean flag = 1;
        boolean val = 0;
         ch1 = 88;
        char ch2 = 'N';
        System.out.println("byte Value = "+ b);
        System.out.println("short Value = "+ s);
```

```
        System.out.println("int Value = "+ v);
        System.out.println("int second Value = "+ calc);
        System.out.println("long Value = "+ amountVal);
        System.out.println("float Value = "+ intrestRate);
        System.out.println("double Value = "+ sineVal);
        System.out.println("boolean Value = "+ flag);
        System.out.println("boolean Value = "+ val);
        System.out.println("char Value = " ch1);
        System.out.println("char Value = "+ ch2);


}
```

โปรแกรมที่ 10

```
class x
    public static void main(String[] args)
        String name   "aknahK tuyaraW";
        int len = name.length();
        char[ tempCharArray = new char[len];
        char[] charArray = new char[len];


        for (int i = 0; i < len; i++) {
            tempCharArray[i] =
                name.charAt(i);
        }

        for (int j = 0 j < len j++) {
            charArray[j] =
                tempCharArraylen - 1 - j];
        }

         reversename =
             String(charArray);
        System.out.println(reversename)
    }
```
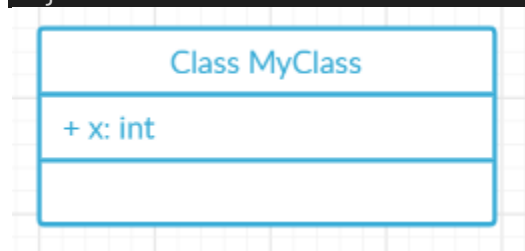
Class diagram

โปรแกรมที่ 1

```
public class MyClass {
    int x = 5;
}
```

```
        Class MyClass
+ x: int

```

โปรแกรมที่ 2

```
public class MyClass {
    int x = 5;
    public static void main(String[] args) {
      MyClass myObj = new MyClass();
      System.out.println(myObj.x);
    }
}
```
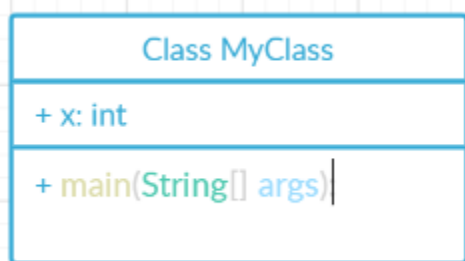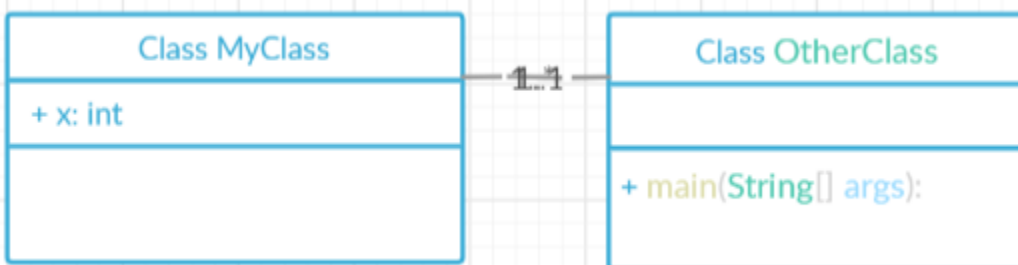
```
        Class MyClass
+ x: int
+ main(String[] args)
```

โปรแกรมที่ 3

```java
public class MyClass {
    int x = 5;
    public static void main(String[] args) {
      MyClass myObj1 = new MyClass();  // Object 1
      MyClass myObj2 = new MyClass();  // Object 2
      System.out.println(myObj1.x);
      System.out.println(myObj2.x);
    }
  }
```
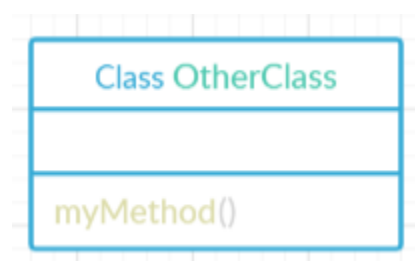
Class MyClass
+ x: int
+ main(String[] args)

โปรแกรมที่ 4

```java
public class MyClass {
    int x = 5;
  }
class OtherClass {
    public static void main(String[] args) {
      MyClass myObj = new MyClass();
      System.out.println(myObj.x);
    }
  }
```
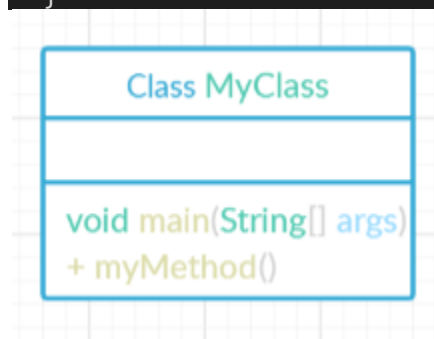
Class MyClass		Class OtherClass
+ x: int	1..1	
		+ main(String[] args):

โปรแกรมที่ 5

```java
public class OtherClass {
    static void myMethod() {
      System.out.println("Hello World!");
    }
  }
```


โปรแกรมที่ 6

```java
public class MyClass {
    static void myMethod() {
      System.out.println("Hello World!");
    }
    public static void main(String[] args) {
      myMethod();
    }
}
```

โปรแกรมที่ 6

```java
public class MyClass {
    static void myMethod() {
        System.out.println("Hello World!");
    }
    public static void main(String[] args) {
        myMethod();
    }
}
```

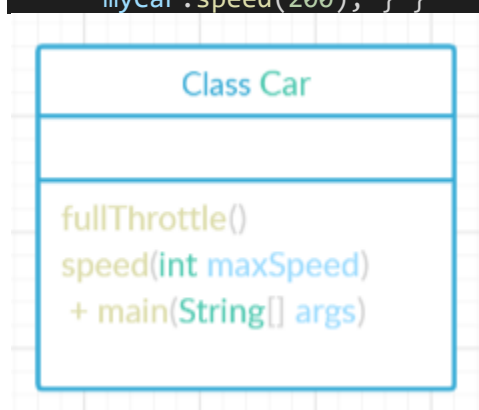| Class MyClass |
|---|
| |
| void main(String[] args)
myMethod() |

โปรแกรมที่ 7

```java
public class MyClass {
    // Static method
    static void myStaticMethod() {
        System.out.println("Static methods can be called without creating objects";
    }
    public void myPublicMethod() {
        System.out.println("Public methods must be called by creating objects");
    }
public static void main(String[] args) {
        myStaticMethod(); // Call the static method
        MyClass myObj = new MyClass(); }}
}
```
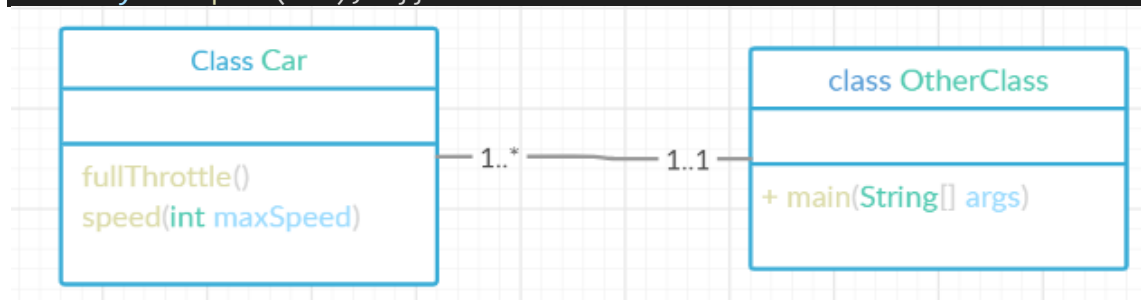
Class MyClass
myStaticMethod() myPublicMethod() + main(String[] args)

โปรแกรมที่ 8

```java
public class Car {
    public void fullThrottle() {
        System.out.println("The car is going as fast as it can!");}
    public void speed(int maxSpeed) {
        System.out.println("Max speed is: " + maxSpeed);}
    public static void main(String[] args) {
        Car myCar = new Car();
        myCar.fullThrottle();
        myCar.speed(200); } }
```


โปรแกรมที่ 9

```java
public class Car {
    public void fullThrottle() {
        System.out.println("The car is going as fast as it can!");}
    public void speed(int maxSpeed) {
        System.out.println("Max speed is: " + maxSpeed);}}
  class OtherClass {
    public static void main(String[] args) {
        Car myCar = new Car();
        myCar.fullThrottle();
        myCar.speed(200);   }}
```

โปรแกรมที่ 10

```java
class Person {
    public String name;
    public int age;
    float speed = 4.0f;

    void setSpeed (float newSpeed) {
        speed = newSpeed;
    }

    float getSpeed () {
        return speed;
    }

    void run () {
        System.out.println(name + " is running at speed " + speed + " feet/s.");
    }
}
```

Class Person
+ String name; + int age; float speed = 4.0f;
setSpeed (float newSpeed); getSpeed () run ()

โปรแกรมที่ 1

```java
import java.io.*;

 class x {

  public static void main(String args[]) throws IOException {

    BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));

   int i[] = {0,0,0,0,0};

   String buf1 ;

        for(int j = 0;j<5;j++){

       buf1 = stdin.readLine();

       i[j] = Integer.parseInt(buf1);

}

System.out.println(i[0] + " + " + i[1] + " = " + (i[0] + i[1]));

}

}
```

โปรแกรมที่ 2

```java
import java.io.*;

  class x {

    public static void main(String args[]) throws IOException {

      BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));

      int i[] = {0,0,0,0,0};

      String buf1 ;

          for(int j = 0;j<5;j++){

          buf1 = stdin.readLine();

          i[j] = Integer.parseInt(buf1);

}

System.out.println(i[2] + " - " + i[3] + " = " + (i[2] - i[3]));

}

}
```

โปรแกรมที่ 3

```
import java.io.*;

  class x {

    public static void main(String args[]) throws IOException {

      BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));

    int i[] = {0,0,0,0,0};

    String buf1 ;

        for(int j = 0;j<5;j++){

        buf1 = stdin.readLine();

        i[j] = Integer.parseInt(buf1);

}

System.out.println(i[4] + " * " + i[5] + " = " + (i[4] * i[5]));

}

}
```

โปรแกรมที่ 4

```java
import java.io.*;

  class x {

    public static void main(String args[]) throws IOException {

      BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));

      int i[] = {0,0,0,0,0};

      String buf1 ;

          for(int j = 0;j<5;j++){

          buf1 = stdin.readLine();

          i[j] = Integer.parseInt(buf1);

}

System.out.println(i[5] + " / " + i[1] + " = " + (i[5] / i[1]));

}

}
```

โปรแกรมที่ 5

```java
import java.io.*;

  class x {

    public static void main(String args[]) throws IOException {

      BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));

      int i[] = {0,0,0,0,0};

      String buf1 ;

          for(int j = 0;j<5;j++){

          buf1 = stdin.readLine();

          i[j] = Integer.parseInt(buf1);

}

System.out.println(i[1] + " + " + i[5] + " = " + (i[1] + i[5]));

}

}
```

โปรแกรมที่ 6

```java
import java.io.*;

 class x {

  public static void main(String args[]) throws IOException {

    BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));

   int a[] = {0,0,0,0,0};

   String buf1 ,buf2;

        for(int j = 0;j<6;j++){

          buf1 = stdin.readLine();

          a[j] = Integer.parseInt(buf1);

       try{

           System.out.print(a[j]);

        }catch(Exception IndexOutOfBoundsException e){

           System.out.print("IndexOutOfBoundsException");

        }

    }

  }

}
```

โปรแกรมที่ 7

```java
import java.io.*;

 class x {

  public static void main(String args[]) throws IOException {

    BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));

   int a[] = {0,0,0,0,0};

   String buf1 ,buf2;

        for(int j = 0;j<5;j++){

         buf1 = stdin.readLine();

         a[j] = Integer.parseInt(buf1);

      try{

          System.out.print(a[1] / a[2] );

        }catch(Exception ArithmeticException e){

          System.out.print("ArithmeticException ");

        }

    }

  }

}
```

โปรแกรมที่ 8

```
import java.io.*;

  class x {

    public static void main(String args[]) throws IOException {

      BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));

      int a[] = {0,0,0,0,0};

      String buf1 ,buf2;

            int total = 0 average = 0 , max = 0 , min = 9999 , loop = 0;

            for(int j = 0;j<5;j++){

              buf1 = stdin.readLine();

              buf2 = stdin.readLine();

         a[j] = Integer.parseInt(buf1);

        for(int j = 0 ; j>5 ; j++)

        {if(a[j] > max){ max += a[j]; }

if(a[j] < min){ min=+ a[j]; }

          total =+ a[j];

          loop++; }}

      average = total / loop ;

      System.out.println("max = " + max);  }
```

โปรแกรมที่ 9

```java
import java.io.*;

 class x {

   public static void main(String args[]) throws IOException {

     BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));

    int a[] = {0,0,0,0,0};

    String buf1 ,buf2;

         int total = 0 average = 0 , max = 0 , min = 9999 , loop = 0;

         for(int j = 0;j<5;j++){

           buf1 = stdin.readLine();

           buf2 = stdin.readLine();

      a[j] = Integer.parseInt(buf1);

     for(int j = 0 ; j>5 ; j++) { if(a[j] > max){ max += a[j]; }

        if(a[j] < min){ min=+ a[j]; }

        total =+ a[j];

        loop++ ; }}

   average = total / loop ;

   System.out.println("min = " + min);

} }
```

โปรแกรมที่ 10

```java
import java.io.*;

 class x {

   public static void main(String args[]) throws IOException {

     BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));

    int a[] = {0,0,0,0,0};

    String buf1 ,buf2;



 int total = 0 average = 0 , max = 0 , min = 9999 , loop = 0;


         for(int j = 0;j<5;j++){

            buf1 = stdin.readLine();

            buf2 = stdin.readLine();

       a[j] = Integer.parseInt(buf1);


       for(int j = 0 ; j>5 ; j++)

       {

          if(a[j] > max){
```

```
        max += a[j];

    }

    if(a[j] < min){

        min=+ a[j];

    }

    total =+ a[j];

    loop++

  }

 }

average = total / loop ;

    System.out.println("total = " + total);

    System.out.println("average = " + average);

}

}
```

โปรแกรมที่ 1

```
class x {

 public static void main(String args[]) {

String z ="ThaiAll";

System.out.println(z.substring(0,4));

        }

}
```

โปรแกรมที่ 2

```
class x {

 public static void main(String args[]) {

String z ="ThaiAll";

System.out.println(z.substring(2,5));

        }

}
```

โปรแกรมที่ 3

```
class x {

 public static void main(String args[]) {

String z ="ThaiAll";
```

```
System.out.println(z.substring(4));

        }

}
```

โปรแกรมที่ 4

```
class x {

  public static void main(String args[]) {

String z ="ThaiAll";

System.out.println(z.toUpperCase());

        }

}
```

โปรแกรมที่ 5

```
class x {

  public static void main(String args[]) {

String z ="ThaiAll";

System.out.println(z.toLowerCase());

        }

}
```

โปรแกรมที่ 6

```
class x {

 public static void main(String args[]) {

String z ="ThaiAll";

System.out.println("string = "+z);

        }

}
```

โปรแกรมที่ 7

```
import java.io.*;

 class x {

  public static void main(String args[]) throws IOException {

    BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));

    int a[] = {0,0,0,0,0};

    String buf1 ,buf2;

        int total = 0 average = 0 , max = 0 , min = 9999 , loop = 0;

        for(int j = 0;j<5;j++){

         buf1 = stdin.readLine();

         buf2 = stdin.readLine();
```

```
  a[j] = Integer.parseInt(buf1);

    for(int j = 0 ; j>5 ; j++)

    {

       if(a[j] > max){

          max += a[j];

       }

       if(a[j] < min){

          min=+ a[j];

       }

       total =+ a[j];

       loop++

    }

  }

  average = total / loop ;

  System.out.println("average = " + average);

}

}
```

โปรแกรมที่ 8

```java
import java.io.*;

 class x {

   public static void main(String args[]) throws IOException {

     BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));

    int a[] = {0,0,0,0,0};

    String buf1 ,buf2;

        int total = 0 average = 0 , max = 0 , min = 9999 , loop = 0;

        for(int j = 0;j<5;j++){

          buf1 = stdin.readLine();

          buf2 = stdin.readLine();

     a[j] = Integer.parseInt(buf1);

     for(int j = 0 ; j>5 ; j++)

     {

        if(a[j] > max){

          max += a[j];

        }
```

```
    if(a[j] < min){

            min=+ a[j];

        }

        total =+ a[j];

        loop++

    }

  }

  System.out.println("max = " + max);

}

}
```

โปรแกรมที่ 9

```
import java.io.*;

 class x {

  public static void main(String args[]) throws IOException {

    BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));
```

```
int a[] = {0,0,0,0,0};

    String buf1 ,buf2;

            int total = 0 average = 0 , max = 0 , min = 9999 , loop = 0;

            for(int j = 0;j<5;j++){

                buf1 = stdin.readLine();

                buf2 = stdin.readLine();

        a[j] = Integer.parseInt(buf1);

        for(int j = 0 ; j>5 ; j++)

        {

            if(a[j] > max){

                max += a[j];

            }

            if(a[j] < min){

                min=+ a[j];

            }

            total =+ a[j];

            loop++
```

```
    }

  }

  System.out.println("min = " + min);

}

}
```

โปรแกรมที่ 10

```java
import java.io.*;

 class x {

  public static void main(String args[]) throws IOException {

    BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));

    int a[] = {0,0,0,0,0};

    String buf1 ,buf2;

        int total = 0 average = 0 , max = 0 , min = 9999 , loop = 0;

        for(int j = 0;j<5;j++){

          buf1 = stdin.readLine();

          buf2 = stdin.readLine();

      a[j] = Integer.parseInt(buf1);
```

```java
    for(int j = 0 ; j>5 ; j++)

      {

         if(a[j] > max){

            max += a[j];

         }

         if(a[j] < min){

            min=+ a[j];

         }

         total =+ a[j];

         loop++

      }

   }

   System.out.println("total = " + total);

   System.out.println("average = " + average);

}

}
```