Lab 1 Solution

1. Arrays:

```
import java.util.Scanner;
public class Ex_1 {
	public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.println("Please enter the size of the Array:");

int size = input.nextInt();

// declaration of arrays
String [] names = new String[size];
int [] Grades = new int[size];
System.out.println("Please enter the name of the Student and his
grade:");
for(int i=0; i<names.length;i++)
{
	names[i] = input.next();
	Grades[i] = input.nextInt();
}
int sum =0;
for(int i=0; i<names.length;i++)
{
	sum = sum + Grades[i];
}
double avg = (double) sum/Grades.length;
System.out.println("The average of my class is: " + avg);

int max = Grades[0];
int maxIndex = 0;

for(int i=1; i<Grades.length; i++ )
{
	if(Grades[i] > max)
	{
		max = Grades[i];
		maxIndex = i;

	}
}

System.out.println("The best student is: " + names[maxIndex] + "
with a grade of: " + max);
```

```
System.out.println("================================================
======================");

int min = Grades[0];
int minIndex = 0;

for(int i=1; i<Grades.length; i++ )
{
      if(Grades[i] < min)
      {
            min = Grades[i];
            minIndex = i;

      }
}

System.out.println("The worst student is: " + names[minIndex] + "
with a grade of: " + min);

System.out.println("My Students are: ");
for(int i=0; i<Grades.length; i++ )
{
      System.out.print(names[i] + " : " + Grades[i] + "\n");
}



      }

}
```

2. Methods

2.1 Method that receives but does not return

```
import java.util.Scanner;
public class Ex2 {
	public static void main(String[] args) {
	Scanner input = new Scanner(System.in);
	System.out.println("Please enter the size of your Arrays:");
	 int size = input.nextInt();

	 //Method that receives but does not return
	     ProcessStudent(size);
	}
	public static void ProcessStudent(int size)
	{
		Scanner input = new Scanner(System.in);
	String [] Names = new String[size];
	int Grades[] = new int[size];

	System.out.println("Please enter the name and his grade:");

	for(int i =0; i<Grades.length; i++)
	{
		Names[i]= input.next();
		Grades[i] = input.nextInt();
	}

	int max = Grades[0];
	int maxIndex=0;

	for(int i=1; i<Grades.length; i++)
	{
		if(Grades[i] > max)
		{
			max = Grades[i];
			maxIndex = i;
		}
	}

	System.out.println("The best student is: " + Names[maxIndex] +
" With a grade of: " + max);
	}

}
```

2.2 Method that receives arguments and returns a result

```
import java.util.Scanner;
public class Ex3 {
	public static void main(String[] args) {
	Scanner input = new Scanner(System.in);
	System.out.println("Please enter the size of your Arrays:");
	 int size = input.nextInt();
	String [] Names = new String[size];
	int Grades[] = new int[size];

	System.out.println("Please enter the name and his grade:");

	for(int i =0; i<Grades.length; i++)
	{
		Names[i]= input.next();
		Grades[i] = input.nextInt();
	}

	//Method that receives 3 arguments and returns a result.
	    int maxIndex = ProcessStudent(Names, Grades, size);
	    System.out.println("The best Student is: " +
Names[maxIndex]);
	}
	public static int ProcessStudent(String []Names, int []Grades,
int size)
	{


	int max = Grades[0];
	int maxIndex=0;

	for(int i=1; i<Grades.length; i++)
	{
		if(Grades[i] > max)
		{
			max = Grades[i];
			maxIndex = i;
		}
	}

	return maxIndex;
	}

}
```