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Expriment No: 4

Code:

Mean:

```
package math;
public class Meanop
{
	public void mean(int a,int b, int c)
	{
		int sum=0;
		int len = 3;
		sum = a+b+c;
	  float mea= sum/len;
		System.out.println("the mean is "+mea);
	}
}
```

Median:

```
package math;
public class Medianop{
public void median()
	{
		int n=5;
		  double a[]=new double[n];
		   a[0]=10;
		  a[1]=20;
		  a[2]=80;
		  a[3]=40;
		  a[4]=50;
		 double m=0;
		  if(n%2==1)
		  {
			m=a[(n+1)/2-1];
		  }
		  else
		  {
			m=(a[n/2-1]+a[n/2])/2;
		  }
System.out.println("Median :"+m);

	}
}
```

Average:

```
package math;
public class Averageop{
public void average()
	{
		int n=5;
		double a[]=new double[n];
	  a[0]=10;
```

```
                a[1]=20;
                a[2]=30;
                a[3]=40;
                a[4]=50;

                double sum = a[0]+a[1]+a[2]+a[3]+a[4];
                double avg = sum/5;

                System.out.println("Average is :"+avg);

        }
}
```

Standard Deviation:

```
package math;
public class Standardop{
public void deviation()
        {
                double sum = 0.0;
                double standardDeviation = 0.0;
                double mean = 0.0;
                double res = 0.0;
                double sq = 0.0;
          int[] arr = { 12, 32, 11, 55, 10, 23, 14, 30 };
          int n = arr.length;
         System.out.println("Elements are:");
          for (int i = 0; i < n; i++) {
          System.out.println(arr[i]);
      }

          for (int i = 0; i < n; i++) {
          sum = sum + arr[i];
      }
        mean = sum / (n);
        for (int i = 0; i < n; i++) {

          standardDeviation  = standardDeviation + Math.pow((arr[i] - mean), 2);

      }

      sq = standardDeviation / n;
      res = Math.sqrt(sq);
          System.out.println("Standard Daviation is = "+res);
      }
}
```

Convert Decimal to Binary:

```
package math.convert;
public class DtoB{
        public void convertt(int n)
        {

                int[] binaryNum = new int[1000];

        int i = 0;
        while (n > 0)
```

```
            {
            binaryNum[i] = n % 2;
            n = n / 2;
            i++;
            }

        for (int j = i - 1; j >= 0; j--)
           System.out.print("Binary no is:"binaryNum[j]);
            System.out.println("");
            }
}
```

Convert Decimal to Octal:

```
package math.convert;
public class DtoO{
            public void convert(int n)
            {
            int[] octalNum = new int[100];
            int i = 0;
            while (n != 0) {
            octalNum[i] = n % 8;
            n = n / 8;
            i++;
        }
            for (int j = i - 1; j >= 0; j--)
                        System.out.print(octalNum[j]);
                        System.out.println("");
            }
}
```

Convert Decimal to Hex:

```
package math.convert;
public class DtoH{
            public void converttt(int n)
            {
            int[] hexNum = new int[100];
            int i = 0;
            while (n != 0) {
            hexNum[i] = n % 16;
            n = n / 16;
            i++;
            }
            for (int j = i - 1; j >= 0; j--) {
            if (hexNum[j] > 9)
                        System.out.print((char)(55 + hexNum[j]));
            else
                        System.out.print(hexNum[j]);
                        System.out.println("");
            }
      }
}
```

Main:

```
import math.Meanop;
import math.Medianop;
import math.Averageop;
```

```
import math.Standardop;

import math.convert.DtoO;
import math.convert.DtoB;
import math.convert.DtoH;
class exp
{
	public static void main(String args[])
	{
		Meanop a = new Meanop();
		a.mean(5,7,5);
		Medianop b = new Medianop();
		b.median();
		Averageop c = new Averageop();
		c.average();
		Standardop d = new Standardop();
		d.deviation();
		DtoO e = new DtoO();
		e.convert(31);
		DtoB f = new DtoB();
		f.convertt(30);
		DtoH h = new DtoH();
		h.converttt(23);
	}
}
```

Output:

```
D:\java\experiment 4>java exp
the mean is 5.0
Median :80.0
Average is :30.0
Elements are:
12
32
11
55
10
23
14
30
Standard Daviation is = 14.438988018555872
37
11110
1
7
```