PRACTICAL NO 4

Aim: Demonstration of Hypothesis testing.

Theory: Explain Hypothesis testing.

Code:

Step 1: First we have to create Excel file and Enter the 28 values so that we can fine deviation, Square of deviation, population, differentiate of mean, T-value, and system calculate standard deviation and save as **.**CSV file.

Output:

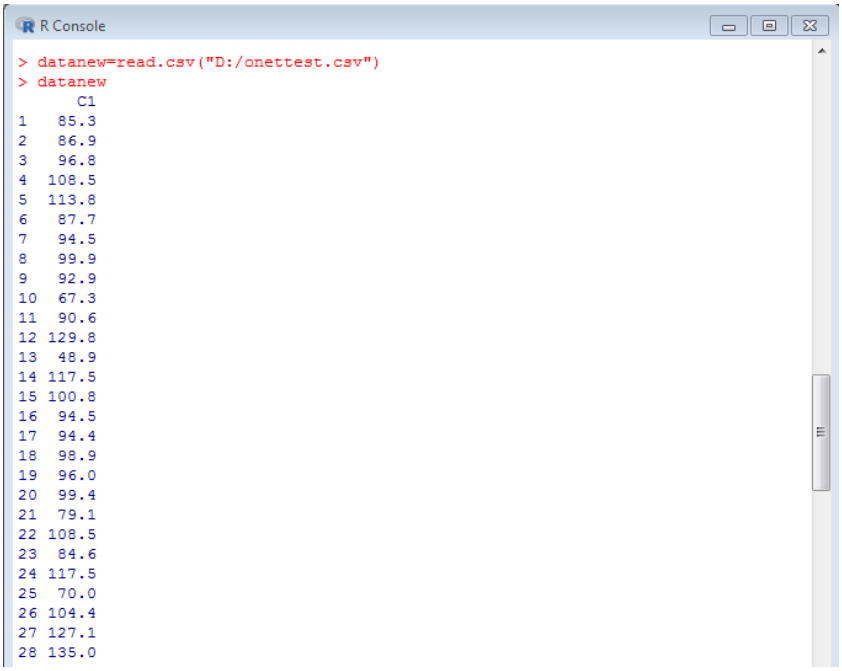
	A	B	C	D	E
1		C1	Deviation	Deviation sqr	
2	1	85.3	-12.22142857	149.3633163	
3		86.9	-10.62142857	112.8147449	
4		96.8	-0.721428571	0.520459184	
5		108.5	10.97857143	120.5290306	
6		113.8	16.27857143	264.9918878	
7		87.7	-9.821428571	96.46045918	
8		94.5	-3.021428571	9.129030612	
9		99.9	2.378571429	5.657602041	
10		92.9	-4.621428571	21.35760204	
11		67.3	-30.22142857	913.3347449	
12		90.6	-6.921428571	47.90617347	
13		129.8	32.27857143	1041.906173	
14		48.9	-48.62142857	2364.043316	
15		117.5	19.97857143	399.1433163	
16		100.8	3.278571429	10.74903061	
17		94.5	-3.021428571	9.129030612	
18		94.4	-3.121428571	9.743316327	
19		98.9	1.378571429	1.900459184	
20		96	-1.521428571	2.314744898	
21		99.4	1.878571429	3.529030612	
22		79.1	-18.42142857	339.3490306	
23		108.5	10.97857143	120.5290306	
24		84.6	-12.92142857	166.9633163	
25		117.5	19.97857143	399.1433163	
26		70	-27.52142857	757.4290306	
27		104.4	6.878571429	47.3147449	
28		127.1	29.57857143	874.8918878	
29		135	37.47857143	1404.643316	
30		97.52143	calculate varianc	346.242398	
31					t value -0.69214
32	populatio	100			system calculate stdev 18.94904
33	Diff in me	-2.47857			
34					

Step 2: Now we have to import Excel file (onetest.csv) type bellow command.

#datanew=read.csv("D:/onettest.csv")

#datanew

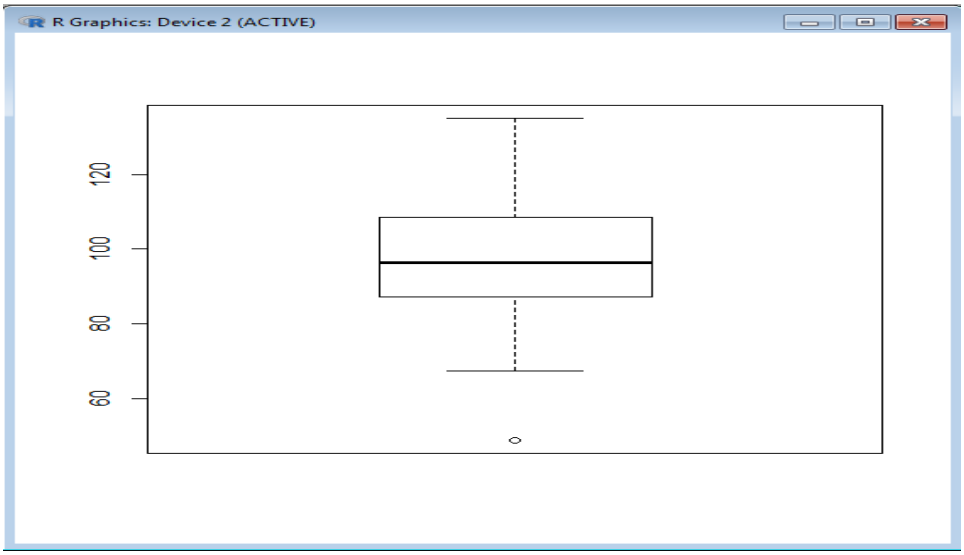
Output:



Step 3: After importing onetest.csv file we will plot Boxplot diagram type bellow command.

#boxplot(datanew)

Output:



Step 4: After that find mean of respective data.

m1=mean(datanew$C1)

#m1

Output:

```
> m1=mean(datanew$C1)
> m1
[1] 97.52143
```

Step 5: Now calculate the standard deviation.

#sd1=sd(datanew$C1)

#sd1

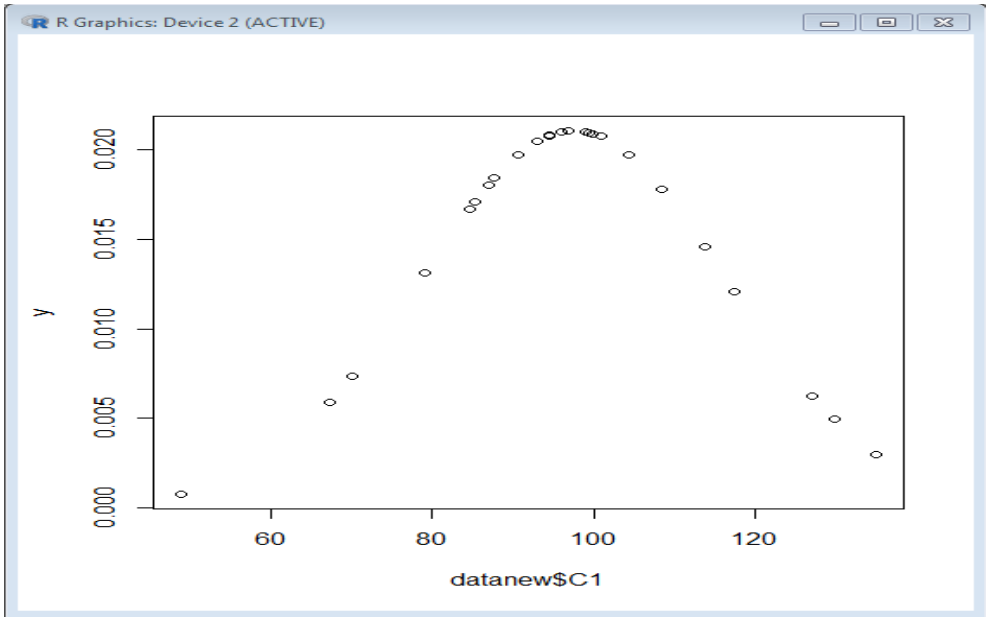
Output:

```
> sd1=sd(datanew$C1)
> sd1
[1] 18.94904
> mean1=mean(datanew$C1)
> mean1
[1] 97.52143
```

Step 6: Plot bell curve.

plot(datanew$C1)

Output:



Step 7: At the end find T-Test value type following command.

#t.test(datanew$C1,alternative="greater",mu=100)

Output:

```
> t.test(datanew$C1,alternative="greater",mu=100)

        One Sample t-test

data:  datanew$C1
t = -0.69214, df = 27, p-value = 0.7526
alternative hypothesis: true mean is greater than 100
95 percent confidence interval:
 91.4219     Inf
sample estimates:
mean of x
 97.52143
```

CONCLUSION: Thus we have implementedHypothesis testing of a Single Population means successfully