**Practical : 4**

**Code :**

#include<stdio.h>

#include<math.h>

int main(){

float mean , X\_bar,LB1,UB1,LB2,UB2,t1 = 2.160,t2 = 3.212,sqsum=0.0,S,SD;

int n ,i ,sum = 0;

printf("Enter the total number of the sample observations :" );

scanf("%d",&n);

int a[n];

printf("Enter the scores : ");

for(i=0;i<n;i++){

scanf("%d",&a[i]);

}

for(i=0;i<n;i++){

sum = sum + a[i];

}

X\_bar = (float)sum / n ;

for (i=0;i<n;i++){

sqsum = sqsum + pow(a[i]-X\_bar,2);

}

S = sqsum / (n-1);

SD = sqrt(S);

LB1 = X\_bar - ((SD/sqrt(n))\*t1);

UB1 = X\_bar + ((SD/sqrt(n))\*t1);

LB2 = X\_bar - ((SD/sqrt(n))\*t2);

UB2 = X\_bar + ((SD/sqrt(n))\*t2);

printf("Mean of the simple observation is %f\n",X\_bar);

printf("Standard deviation of the simple observation is %f\n",SD);

printf("Confidence Interval of 95%% and 5%% level of significance is : (%f , %f )\n",LB1,UB1);

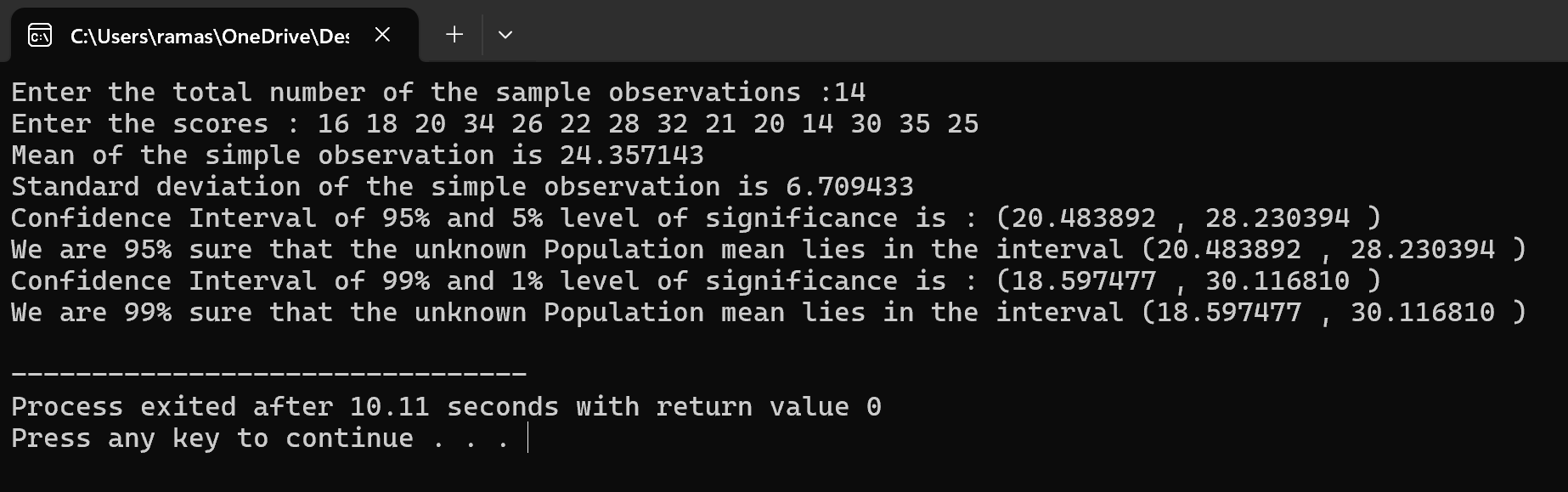
printf("We are 95%% sure that the unknown Population mean lies in the interval (%f , %f )\n",LB1,UB1);

printf("Confidence Interval of 99%% and 1%% level of significance is : (%f , %f )\n",LB2,UB2);

printf("We are 99%% sure that the unknown Population mean lies in the interval (%f , %f )\n",LB2,UB2);

}

**Output :**

****