**Code :**

#include<stdio.h>

#include<math.h>

#include<stdlib.h>

#include<time.h>

int input(int data[],int n){

int i;

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

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

}

}

float mean(int data[],int n){

int sum=0,i;

float avg;

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

{

sum+=data[i];

}

avg=sum/n;

return avg;

}

float var(int data[],int n)

{

int sum\_sq=0,i;

float mu,variance;

mu=mean(data,n);

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

{

sum\_sq+=(data[i]-mu)\*(data[i]-mu);

}

variance=sum\_sq/(n-1);

return variance;

}

main()

{

int A[50],B[50],n1,n2;

float mu1,mu2,s1,s2,t;

printf("Enter number of observation of weights of animals for food A:");

scanf("%d",&n1);

printf("Enter number of observation of weights of animals for food B:");

scanf("%d",&n2);

printf("Enter the observation of weights of animals for food A:\n");

input(A,n1);

printf("Enter the observation of weights of animals for food B:\n");

input(B,n2);

mu1=mean(A,n1);

mu2=mean(B,n2);

s1=var(A,n1);

s2=var(B,n2);

t=(mu1-mu2)/sqrt(((s1\*(n1-1))+(s2\*(n2-1)))/(n1+n2-2));

printf("The value of the test statistic is:%f",t);

if(t<1.76)

{

printf("\nWe fail to reject the null hupothesis and conclude that both foods have same effect");

}

else

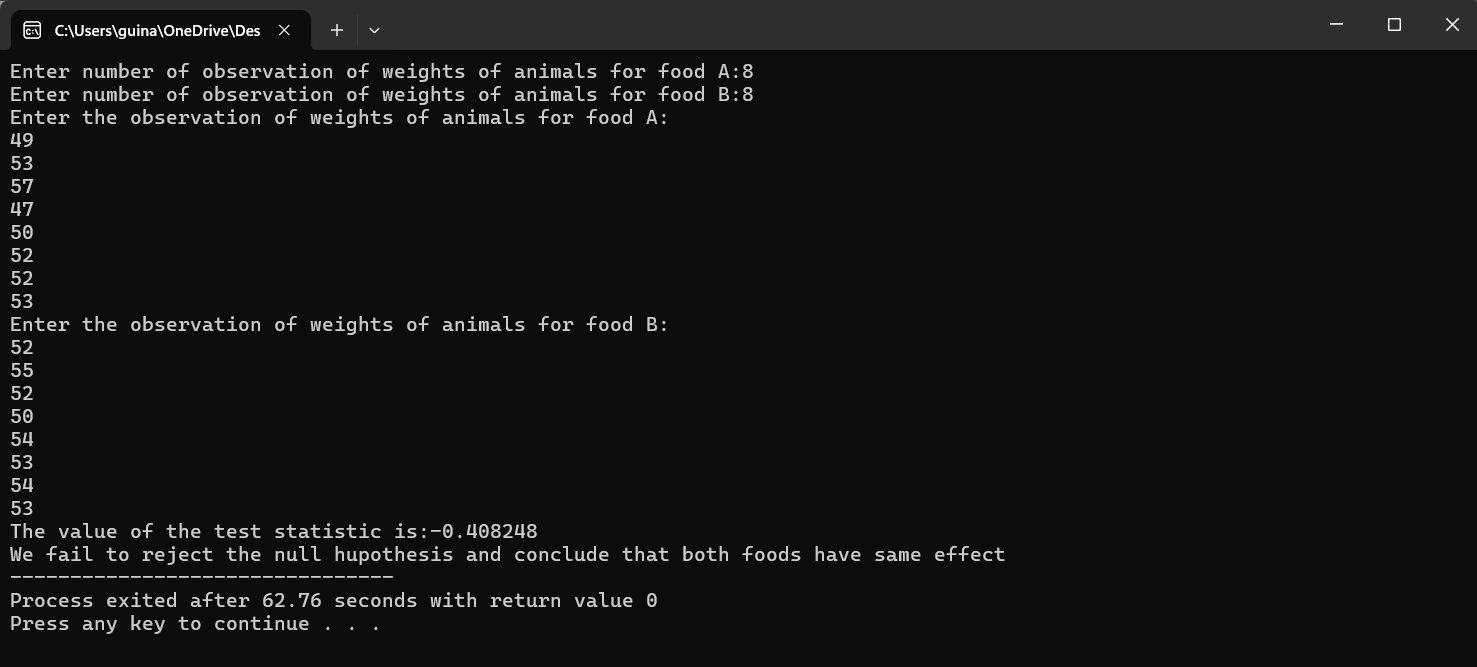
{

printf("We reject the null hypothesis and conclude that food B is better than food A");

}

}

**OUTPUT :**

****