Question: Write a program to calculate the mean and standard deviation of a sample of n real numbers.

1. Plan.txt

   Program will have:

   1. Main method

   2. Mean function - to calculate mean.

   3. Standard deviation function - to calculate standard deviation.

   Assume that number of data is 10.

   Task, Time

   Main Method, 15

   Mean Function, 10

   Standard Function, 15

   Error Fixing, 20

   Testing, 20

2. Task.log

   24-09-2020-16:37   Coding Writing Main Method   5

   24-09-2020-16:42   Coding Writing Mean Function   4

   24-09-2020-16:46   Coding Writing Standard Deviation Function   8

   24-09-2020-16:55   Coding Error Fixing   13

   24-09-2020-17:09   Coding Testing   6

3. Defect.log

   24-09-2020-16:56   Coding "s2 undeclared"

   24-09-2020-17:04   Coding "Input dataSet error"

4. Lab1.c

   ```c
   #include<stdio.h>
   #include<stdio.h>
   #include<math.h>
   float CalculateMean(int dataSet[], int frequency)
   ```

```c
{
    int sum = 0;
    for(int i = 0; i < 10; i++)
        sum += dataSet[i];
    return (sum / frequency);
}


float CalculateSD(int dataSet[], int frequency, float mean)
{
    int sum = 0;
    for(int i = 0; i < 10; i++)
        sum += pow((dataSet[i]-mean),2);
    return sqrt(sum/frequency);
}
void CheckMean(float input,float output)
{
    if(input == output)
        printf("\nMean Function is working properly");
    else
        printf("\nMean Function is not working properly");
}
void CheckSD(float input,float output)
{
    if(input == output)
        printf("\nStandard Deviation Function is working properly");
    else
        printf("\nStandard Deviation Function is not working properly");
}
void main()
{
    int dataSet[10]={1,3,5,7,9,11,13,15,17,19};
    float mean,sd;
    mean = CalculateMean(dataSet,10);
    sd = CalculateSD(dataSet,10,mean);
    printf("\nMean: %f",mean);
    printf("\nStandard Deviation: %f",sd);
    CheckMean(mean,10);
    CheckSD(sd,sqrt(33));
}
```