Assignment No:10

Roll No.   13038

Name: Siddhi Landge

Class   :FE(IT)

Div.   :M

Batch   :M2

Title / Problem Statement: Write a Program in C to generate summary report of Sensor Values from data file that has number of data points in first record, by using following file operations,

1. Open a File.

2. Read file.

3. Calculate summary as minimum, maximum and average value of data points.

4. Display summary report of Sensor Values and Close a File

Course Outcome: CO110.4: Develop application using function structure and file operation concept to solve real world problems

Program:

```
#include <stdio.h>


int main() {
```

```
FILE *file;
```

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```
int n, i;
float value, min, max, sum = 0, average;

// Open the file file =
fopen("sensor_data.txt", "r"); if (file ==
NULL) { printf("Error: Unable to open
file.\n"); return 1;
}

// Read the number of data points fscanf(file,
"%d", &n);

// Initialize min and max
fscanf(file, "%f", &value);
min = max = value; sum
= value;

// Process remaining values
for (i = 1; i < n; i++) {
    fscanf(file, "%f", &value); if
    (value < min) min = value; if
```

```c
(value > max) max = value;
```

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```c
    sum += value;
}


// Calculate average
average = sum / n;


// Display summary printf("Summary
Report:\n"); printf("Minimum Value:
%.2f\n", min); printf("Maximum Value:
%.2f\n", max); printf("Average Value:
%.2f\n", average);


// Close the file
fclose(file);
return 0;
}
```

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Output:

```
5
12.5
18.3
15.0
10.2
20.7
```

```
Summary Report:
Minimum Value: 10.20
Maximum Value: 20.70
Average Value: 15.34
```

Inference: 1.We learned how to use file In in C programming by performing certain operation on a file

Assignment No: 2

Roll No: **13038**   **Name: Siddhi Landge**

Div: **M**   **Batch: M-2**

Course Outcome: CO105.L.1:Write a program using basic languageconstructs decision structures for solving the given problem.

Problem Statement: 2.a Write a C program to determine whether the year is a leap year or not.

Program:

```
#include<stdio.h>
int main()
{
int year;
printf("Enter year:");
scanf("%d",&year);
if(year %4==0)
{


printf("%d is a leap year.",year);
}
else
{
printf("%d is not a leap year ",year);
}
return 0;
}
```

OUTPUT:

```
Enter year:2024
2024 is a leap year.
Process returned 0 (0x0)   execution time : 2.906 s
Press any key to continue.
```

```
Enter year:2030
2030 is not a leap year.      Default: "D:\pps assignments\1A.exe"
Process returned 0 (0x0)   execution time : 3.000 s
Press any key to continue.
```

Inference: In this way,I learned the basic language of C that constructs basic sytructures for solving the above problem.