

Experiment No. 1

Class and Div: Mech & F

Batch: B

Name: Sagnik Das

RollNo.: 47

FacultyIn-charge: Sana Seikh

Aim:

Mark Sheet Generation System Create a C program that simulates a college mark sheet generation system. The program should collect student details such as name, roll number, and marks in three subjects, then display the result in a formatted manner. Use various C input/output functions like scanf(), printf(), getchar(), putchar(), gets(), and puts() to demonstrate basic console-based data handling.

ProgramCode:

```
#include <stdio.h>

int main() {
    char name[50];
    int roll;
    float m1, m2, m3, total, percent;
    char grade;

    // Input using fgets()
    printf("Enter Student Name: ");
    fgets(name, sizeof(name), stdin);    // safer input

    // Using scanf()
    printf("Enter Roll Number: ");
    scanf("%d", &roll);

    printf("Enter marks in Subject 1: ");
    scanf("%f", &m1);

    printf("Enter marks in Subject 2: ");
    scanf("%f", &m2);

    printf("Enter marks in Subject 3: ");
    scanf("%f", &m3);

    // Calculations
    total = m1 + m2 + m3;
    percent = total / 3.0;

    // Grade Calculation
    if (percent >= 90) grade = 'A';
    else if (percent >= 80) grade = 'B';
    else if (percent >= 70) grade = 'C';
    else if (percent >= 60) grade = 'D';
    else grade = 'F';

    printf("Name: %s\n", name);
    printf("Roll Number: %d\n", roll);
    printf("Subject 1: %.2f\n", m1);
    printf("Subject 2: %.2f\n", m2);
    printf("Subject 3: %.2f\n", m3);
    printf("Total: %.2f\n", total);
    printf("Percentage: %.2f\n", percent);
    printf("Grade: %c\n", grade);
```

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```
else if (percent >= 75) grade = 'B';
else if (percent >= 60) grade = 'C';
else if (percent >= 40) grade = 'D';
else grade = 'F';

// Output using printf(), puts(), putchar()
printf("\n----- MARK SHEET ----- \n");

printf("Name: ");
puts(name);           // prints string with newline

printf("Roll Number: %d\n", roll);
printf("Marks: %.2f, %.2f, %.2f\n", m1, m2, m3);

printf("Total: %.2f\n", total);
printf("Percentage: %.2f%\n", percent);

printf("Grade: ");
putchar(grade);        // prints a single character
putchar('\n');         // newline

printf("-----\n");

return 0;
}
```

Output:(Twosamples)

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C:\Users\sagni\OneDrive\Desktop\Project\Rough work.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

(globals)

Rough work.cpp

```
39 Enter Student Name: Sagnik
40 Enter Roll Number: 47
41 Enter marks in Subject 1: 96
42 Enter marks in Subject 2: 66
43 Enter marks in Subject 3: 69
44
----- MARK SHEET -----
45 Name: Sagnik
46
47 Roll Number: 47
48 Marks: 96.00, 66.00, 69.00
49 Total: 231.00
50 Percentage: 77.00%
51 Grade: B
52
53
-----
```

Process exited after 25.09 seconds with return value 0
Press any key to continue . . . |

Compiler

Abort Compilation

Shorten compiler paths

- Output filename: C:\Users\sagni\OneDrive\Desktop\Project\Rough work.exe
- Output Size: 130.1123046875 KiB
- Compilation Time: 3.27s

Line: 57 Col: 1 Sel: 0 Line: 57 Length: 1420 Insert Done parsing in 0.427 seconds

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The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\sagni\OneDrive\Desktop\Project\Rough work.cpp - [Executing] - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help. The toolbar has various icons for file operations like Open, Save, Print, and Build. The status bar at the bottom shows "Line: 57 Col: 1 Sel: 0 Lines: 57 Length: 1429 Insert Done parsing in 0.437 seconds". The code editor window displays a C++ program named "Rough work.cpp" with line numbers 39 to 53. The output window shows the execution results:

```
39
40     pr
41     pu Enter Student Name: sagnik Das
42     Enter Roll Number: 47
43     pr Enter marks in Subject 1: 99
44     pr Enter marks in Subject 2: 68
45     pr Enter marks in Subject 3: 65
46     pr ----- MARK SHEET -----
47     pr Name: sagnik Das
48     pr Roll Number: 47
49     pr Marks: 99.00, 68.00, 65.00
50     pr Total: 232.00
51     pr Percentage: 77.33%
52     pr Grade: B
53     pr -----
```

The output concludes with "Process exited after 11.44 seconds with return value 0" and "Press any key to continue . . . |".

Conclusion:

This experiment helped in understanding C input/output functions, handling various data types, simple calculations and generating a formatted mark sheet. It reinforced basic programming concepts and result presentation skills.