

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';
```

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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);

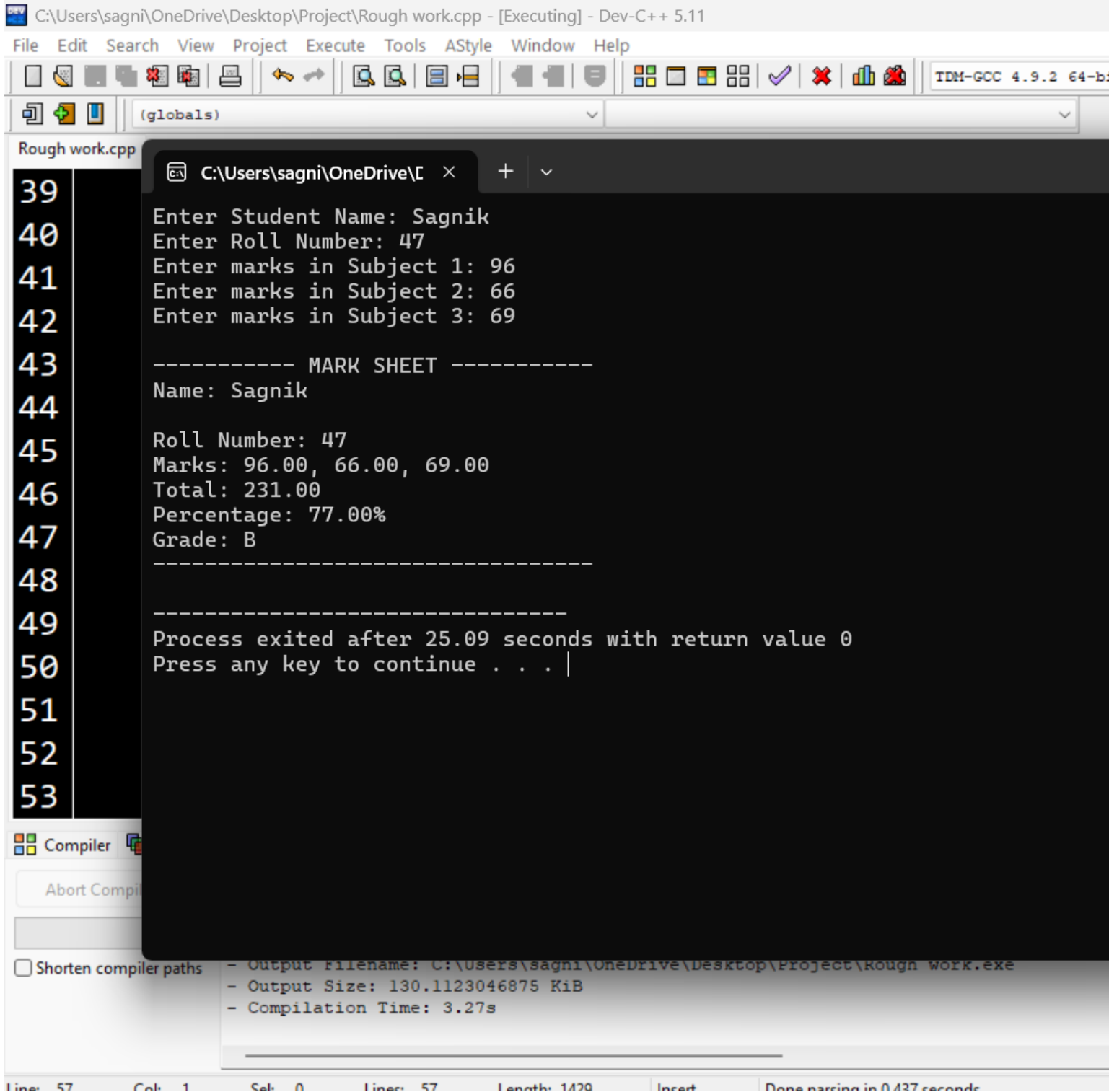
printf("Grade: ");
putchar(grade);       // prints a single character
putchar('\n');        // newline

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

return 0;
}
```

Output:(Twosamples)

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The screenshot shows the Dev-C++ IDE with the file `Rough work.cpp` open. The program is being executed, and the output is displayed in a black console window. The source code on the left shows lines 39 to 53. The console output shows the program's execution, including prompts for student details and the resulting mark sheet.

```
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
40
41
42
43
44
45
46
47
48
49
50
51
52
53
C:\Users\sagni\OneDrive\
Enter Student Name: Sagnik
Enter Roll Number: 47
Enter marks in Subject 1: 96
Enter marks in Subject 2: 66
Enter marks in Subject 3: 69

----- MARK SHEET -----
Name: Sagnik

Roll Number: 47
Marks: 96.00, 66.00, 69.00
Total: 231.00
Percentage: 77.00%
Grade: B

-----

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

Compiler
Abort Compil...
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 0.437 seconds
```

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The screenshot shows the Dev-C++ 5.11 IDE with the file 'Rough work.cpp' open. The program is being executed, and a console window displays the following output:

```
Enter Student Name: sagnik Das
Enter Roll Number: 47
Enter marks in Subject 1: 99
Enter marks in Subject 2: 68
Enter marks in Subject 3: 65

----- MARK SHEET -----
Name: sagnik Das
Roll Number: 47
Marks: 99.00, 68.00, 65.00
Total: 232.00
Percentage: 77.33%
Grade: B
-----

Process exited after 11.44 seconds with return value 0
Press any key to continue . . .
```

The IDE interface includes a menu bar (File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help), a toolbar, and a status bar at the bottom showing 'Line: 57', 'Col: 1', 'Sel: 0', 'Lines: 57', 'Length: 1429', 'Insert', and 'Done parsing in 0.437 seconds'.

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.