

Assignment 4.1	
Switch Case	
Course Code: CPE007	Program: Computer Engineering
Course Title: Programming Logic and Design	Date Performed: 9/11/25
Section: CPE11S1	Date Submitted: 9/11/25
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6. Output	
CODE	

```
1  #include <iostream>
2  #include <iomanip>
3  using namespace std;
4  int main(){
5      int physics, biology, math;
6      cout << "Enter Physics grade: ";
7      cin >> physics;
8      cout << "Enter Biology grade: ";
9      cin >> biology;
10     cout << "Enter Math grade: ";
11     cin >> math;
12
13     float average = (physics + biology + math) / 3.0;
14
15     char grade;
16     switch ((int) average / 10){
17         case 10:
18             grade = 'A';
19             break;
20         case 9:
21             grade = 'A';
22             break;
23         case 8:
24             grade = 'B';
25             break;
26         case 7:
27             grade = 'C';
28             break;
29         case 6:
30             grade = 'D';
31             break;
32         case 5:
33             grade = 'D';
34             break;
35         case 4:
36             grade = 'E';
37             break;
38         default:
39             grade = 'F';
40             break;
```

```

41     }
42
43     cout << fixed << setprecision(2);
44     cout << endl;
45     cout << "Physics: " << physics << endl;
46     cout << "Biology: " << biology << endl;
47     cout << "Math: " << math << endl;
48     cout << endl;
49     cout << "Average is: " << average << endl;
50     cout << "Grade Level: " << grade << endl;
51
52     return 0;
53 }

```

OUTPUT

```

Enter Physics grade: 77
Enter Biology grade: 92
Enter Math grade: 81

Physics: 77
Biology: 92
Math: 81

Average is: 83.33
Grade Level: B

-----
Process exited after 16.2 seconds with return value 0
Press any key to continue . . .

```

PSEUDOCODE

START

INITIALIZE physics, biology, math

OUTPUT "Enter Physics grade: "

INPUT physics

OUTPUT "Enter Biology grade: "

INPUT biology

OUTPUT "Enter Math grade: "

INPUT math

INITIALIZE AS FLOAT average = (physics + biology + math) / 3.0

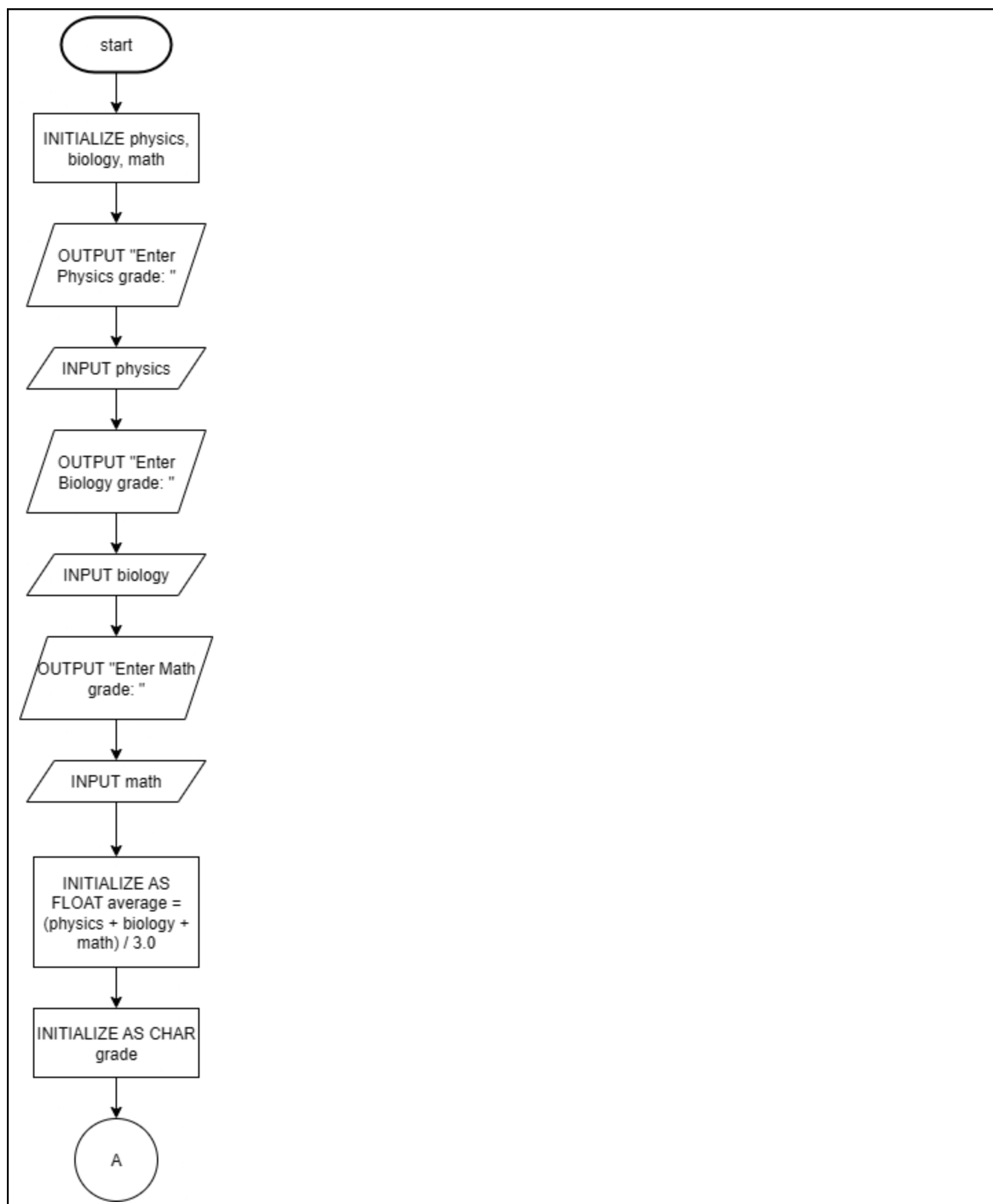
INITIALIZE AS CHAR grade

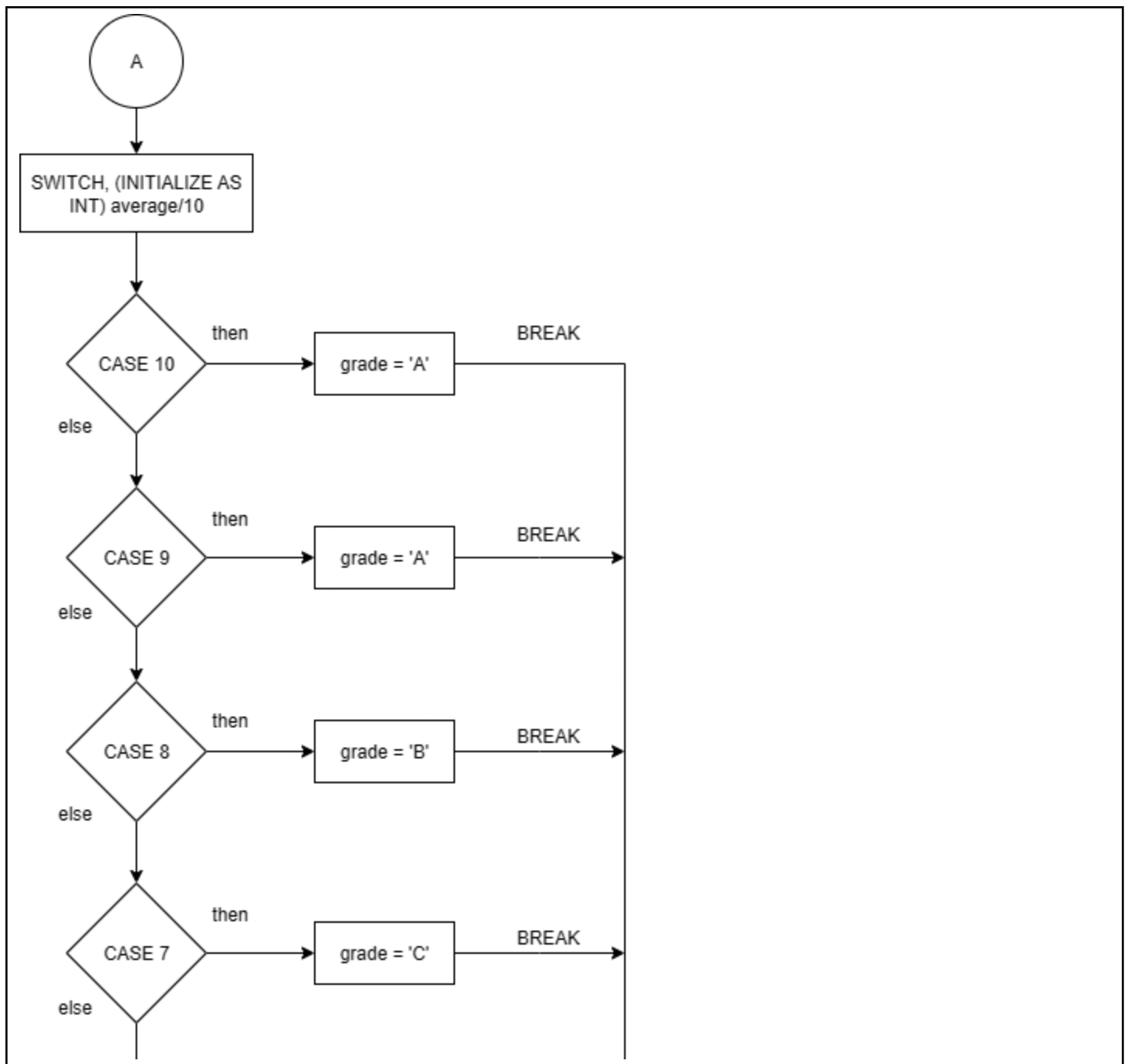
SWITCH, (INITIALIZE AS INT) average/10

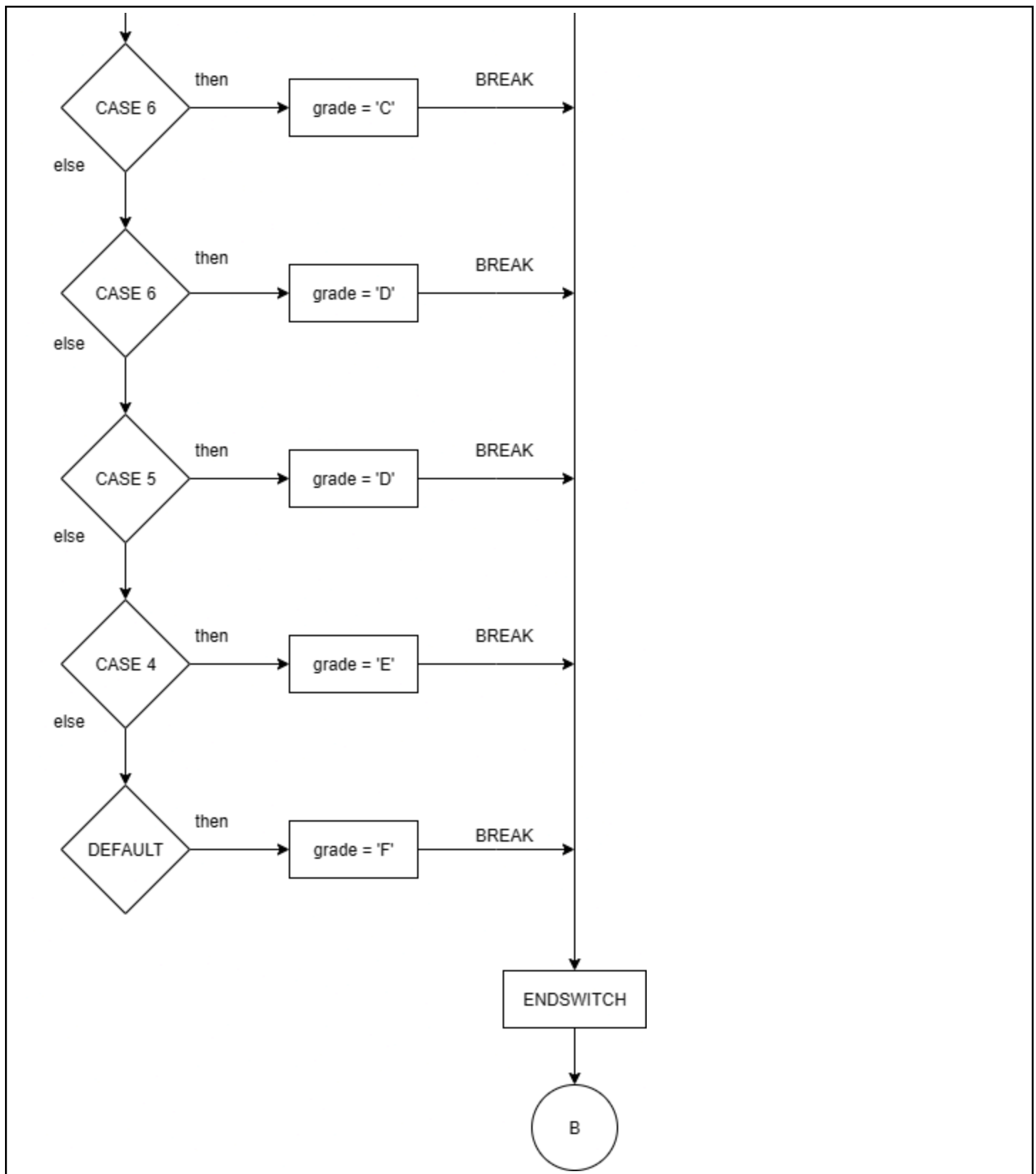
```
CASE 10
    grade = 'A'
    BREAK
CASE 9
    grade = 'A'
    BREAK
CASE 8
    grade = 'B'
    BREAK
CASE 7
    grade = 'C'
    BREAK
CASE 6
    grade = 'D'
    BREAK
CASE 5
    grade = 'D'
    BREAK
CASE 4
    grade = 'E'
    BREAK
DEFAULT
    grade = 'F'
    BREAK
ENDSWITCH

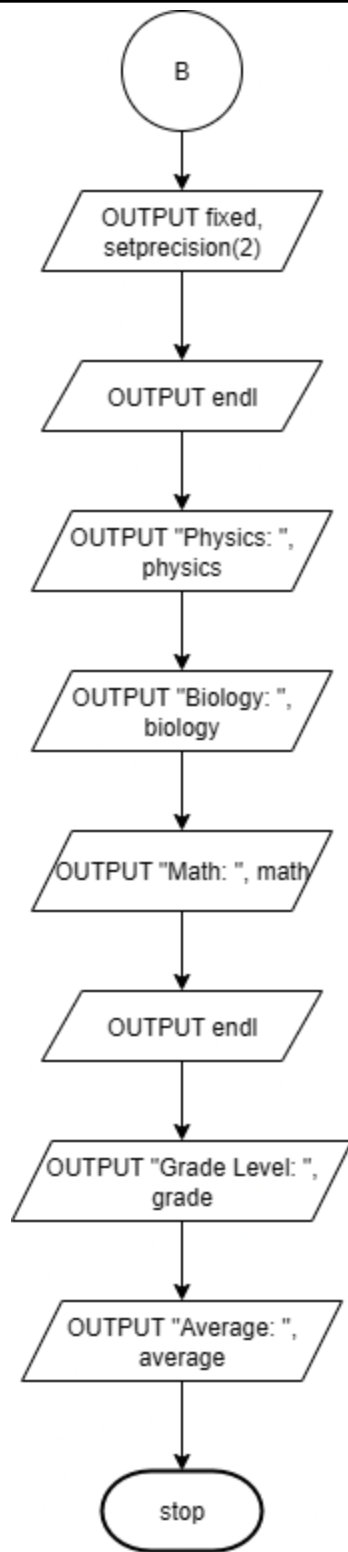
OUTPUT fixed, setprecision(2)
OUTPUT endl
OUTPUT "Physics: ", physics
OUTPUT "Biology: ", biology
OUTPUT "Math: ", math
OUTPUT endl
OUTPUT "Average: ", average
OUTPUT "Grade Level: ", grade
STOP
```

FLOWCHART









7. Supplementary Activity

8. Conclusion

Concluding this activity, I learned how to use the switch and case commands to display a grade level based on the computations of the three grades of the following subjects given. In problems like this, the switch case method works well for marking specific cases or values to perform certain commands, which in this case is to set the grade level from A to F. Compared to the if-then and else method, the code can take up more lines than needed. Reading the flowchart, the switch case also uses the diamond-shaped decision symbol, same as the if-then statement. Overall, I realized that writing

programs is essentially creating if-then statements in various ways, and by expanding my knowledge in this language, I can create more optimized solutions to problems like this.

9. Assessment Rubric