Assignment 4.1	
Switch Case	
Course Code: CPE007	**Program:** Computer Engineering
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Name(s): Mendoza, Nathaniel B.	**Instructor: Engr. Jimlord M. Quejado**

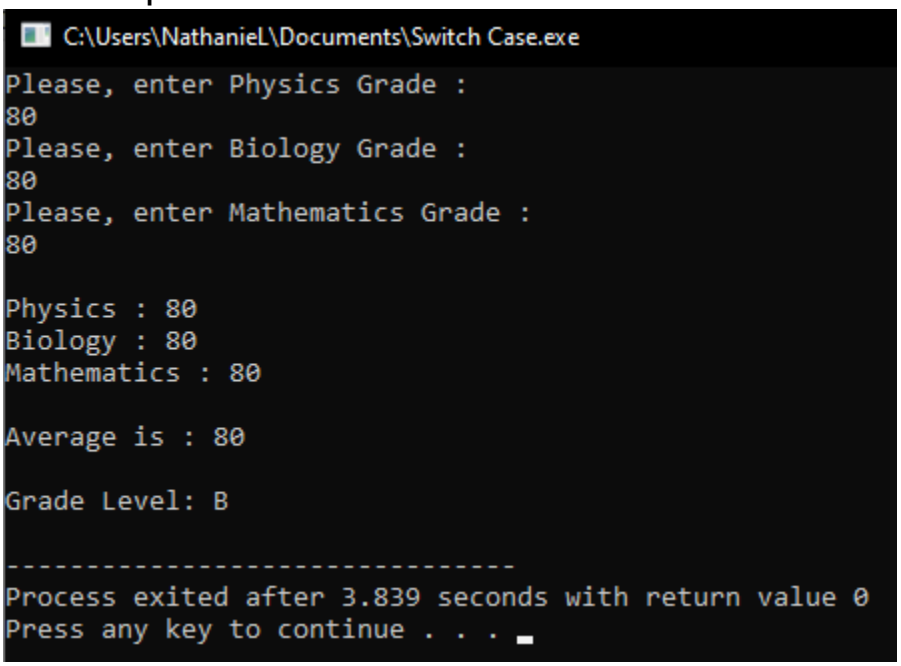
6. Output

1. **Code**

Switch Case.cpp

```cpp
// Mendoza, Nathaniel Borja CPE11S1
#include <iostream>
using namespace std;

int main ()
{
    string subjects[3] = {"Physics", "Biology", "Mathematics"};
    int grades [3];
    float average;
    char grade;

    cout<<"Please, enter Physics Grade :"<<endl;
    cin>> grades[0];
    cout<<"Please, enter Biology Grade :"<<endl;
    cin>> grades[1];
    cout<<"Please, enter Mathematics Grade :"<<endl;
    cin>> grades[2];

    cout << "\nPhysics : " << grades[0];
    cout << "\nBiology : " << grades[1];
    cout << "\nMathematics : " << grades[2] << endl;

    average = (grades[0] + grades[1] + grades[2]) / 3.0;
    cout << "\nAverage is : " << average << endl;

    switch ((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 = 'E'; break;
        case 4:  grade = 'E'; break;
        default: grade = 'F'; break;
    }

    cout << "\nGrade Level: " << grade << endl;

    return 0;
}
```

2. **Code Output**



3. **Pseudo-Code**

START

INITIALIZE subjects = {“Physics”, “Biology”, “Mathematics”}
INPUT Physics grade = grades[0]
INPUT Biology grade = grades[1]
INPUT Mathematics grade = grades [2]

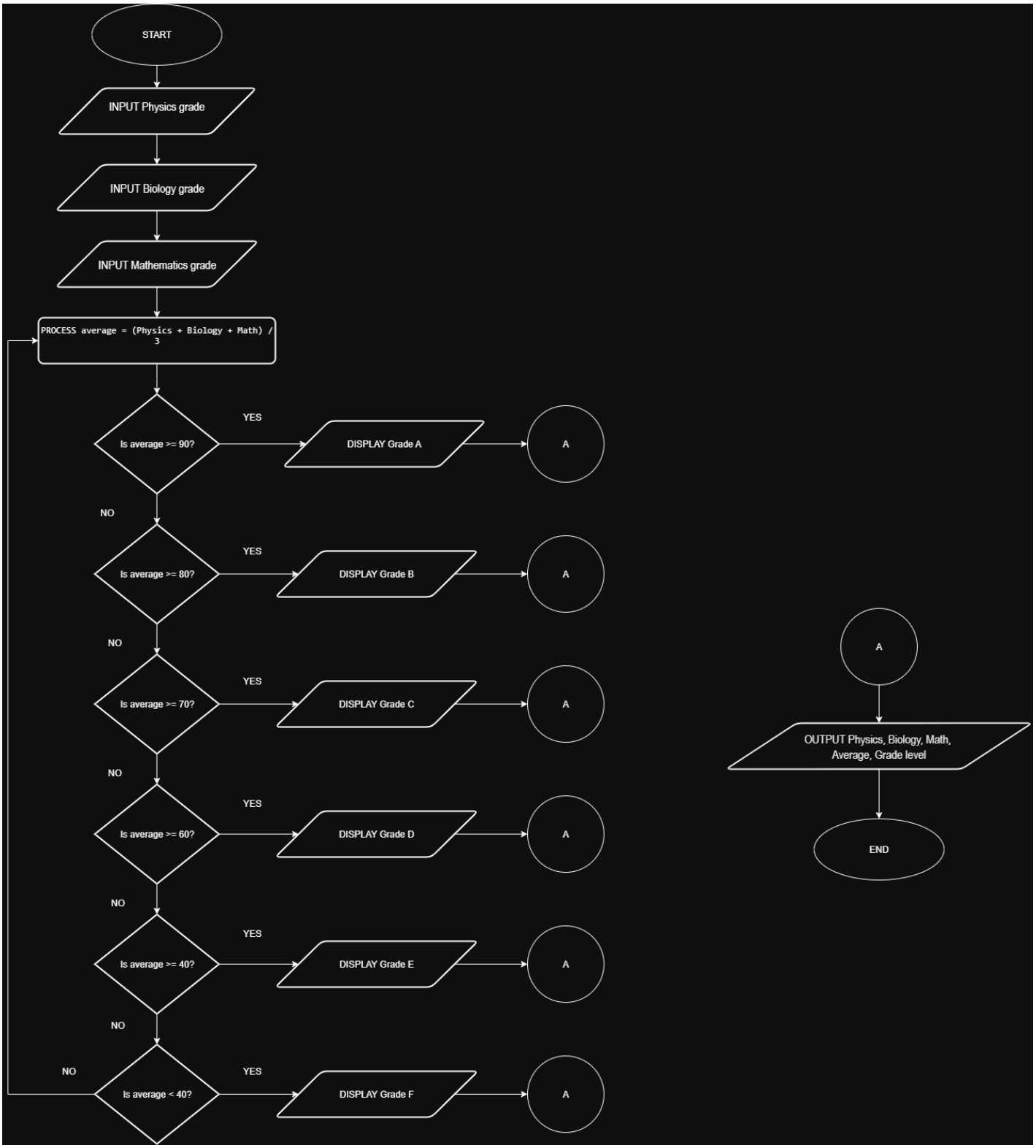
PROCESS average = (grades[0] + grades[1] + grades[2]) / 3

SWITCH (average DIV 10)
CASE 10 and 9: grade = ‘A’
CASE 8: grade = ‘B’
CASE 7: grade = ‘C’
CASE 6: grade = ‘D’
CASE 5 and 4: grade = ‘E’
DEFAULT: grade: = ‘F’
END SWITCH

OUTPUT Physics grade
OUTPUT Biology grade
OUTPUT Mathematics grade
OUTPUT average
OUTPUT grade level

END

4. **Flowchart**


START
INPUT Physics grade
INPUT Biology grade
INPUT Mathematics grade
PROCESS average = (Physics + Biology + Math) / 3
Is average >= 90?
YES
DISPLAY Grade A
A
NO
Is average >= 80?
YES
DISPLAY Grade B
A
NO
Is average >= 70?
YES
DISPLAY Grade C
A
NO
Is average >= 60?
YES
DISPLAY Grade D
A
NO
Is average >= 40?
YES
DISPLAY Grade E
A
NO
Is average < 40?
NO
YES
DISPLAY Grade F
A
A
OUTPUT Physics, Biology, Math, Average, Grade level
END

7. Supplementary Activity
8. Conclusion
During the activity, I encountered some errors in my code, but they were not too many. To be specific, I was confused about the first 4 elements such as string subjects, int grades, char grade, and float average as my idea is getting mixed up. Most of the mistakes came from mixing up data types and using the wrong formula for the average. Fixing these errors helped me better understand how arrays, switch statements, and conditions actually work. Overall, the experience improved my coding skills and made me more careful when writing programs. Therefore I can conclude that I can successfully implement switch cases, arrays into 1 coding which gives me a challenging experience yet fun.