Assignment 4.1	
Switch Case	
Course Code: CPE007	**Program:** Computer Engineering
Course Title: Programming Logic and Design	**Date Performed:** 9/10/25
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6. Output

Code & Output

```cpp
#include <iostream>

int main(){
    int physics,math,biology;

    std::cout << "Physics: ";
    std::cin >> physics;

    std::cout << "Biology: ";
    std::cin >> biology;

    std::cout << "Math: ";
    std::cin >> math;

    int average = (physics + biology + math)/3;
    std::cout << "Average is: " << average << std::endl;

    int grading = average / 10;

    char gradelvl;

    switch (grading){
        case 10:
        case 9:
            gradelvl = 'A';
            break;
        case 8:
            gradelvl = 'B';
            break;
        case 7:
            gradelvl = 'C';
            break;
        case 6:
            gradelvl = 'D';
            break;
        case 5:
        case 4:
            gradelvl = 'E';
            break;
        default:
            gradelvl = 'F';
            break;
    }

    std::cout << "Grade Level: Grade " << gradelvl;
    return 0;
}
```

```
Physics: 80
Biology: 80
Math: 80
Average is: 80
Grade Level: Grade B
--------------------------------
Process exited after 5.228 seconds with return value 0
Press any key to continue . . .
```

```
PseudoCode:
START
    INITIALIZE physics,math,biology
    PRINT "Physics: "
    INPUT physics
    PRINT "Biology: "
    INPUT biology
    PRINT "Math: "
    INPUT math
    SET average = (physics+biology+math) / 3
    PRINT "Average is : "average
    SET grading = average / 10
    INITIALIZE gradelvl
    SWITCH (grading)
        CASE 10:
        CASE 9:
            SET gradelvl = A
            BREAK
        CASE 8:
            SET gradelvl = B
            BREAK
        CASE 7:
            SET gradelvl = C
            BREAK
        CASE 6:
            SET gradelvl = D
            BREAK
        CASE 5:
        CASE 4:
            SET gradelvl = E
            BREAK
        DEFAULT:
            SET gradelvl = F
            BREAK
    END SWITCH
    PRINT "Grade Level: Grade " gradelvl
END
```
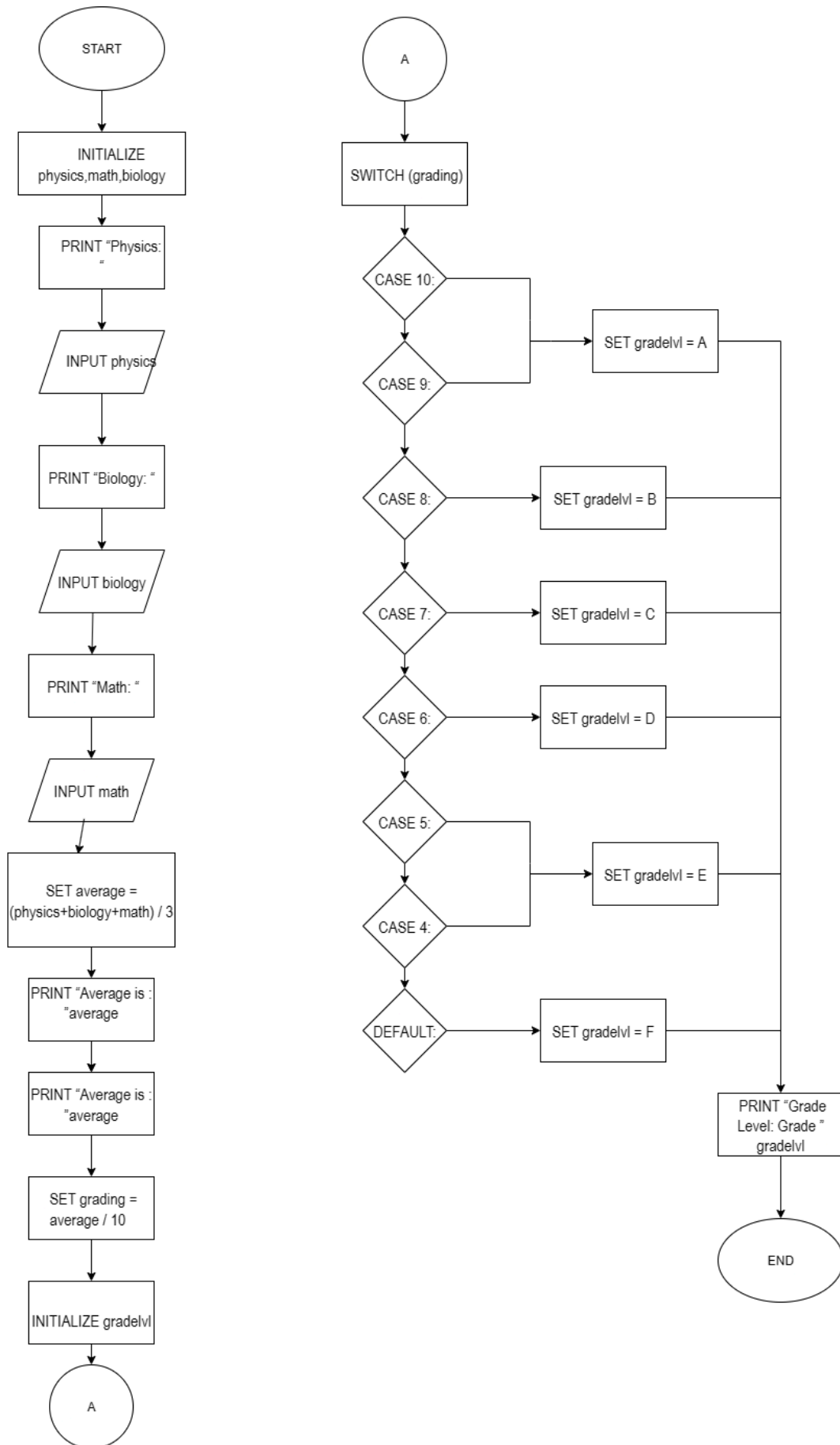
Flowchart

```
START
  │
  ▼
INITIALIZE
physics,math,biology
  │
  ▼
PRINT "Physics: "
  │
  ▼
INPUT physics
  │
  ▼
PRINT "Biology: "
  │
  ▼
INPUT biology
  │
  ▼
PRINT "Math: "
  │
  ▼
INPUT math
  │
  ▼
SET average =
(physics+biology+math) / 3
  │
  ▼
PRINT "Average is :
"average
  │
  ▼
PRINT "Average is :
"average
  │
  ▼
SET grading =
average / 10
  │
  ▼
INITIALIZE gradelvl
  │
  ▼
  A
```

```
A
  │
  ▼
SWITCH (grading)
  │
  ▼
CASE 10: ─────────┐
  │               │
  ▼               │
CASE 9: ──────────┴──────→ SET gradelvl = A ──┐
  │                                            │
  ▼                                            │
CASE 8: ──────────→ SET gradelvl = B ──────────┤
  │                                            │
  ▼                                            │
CASE 7: ──────────→ SET gradelvl = C ──────────┤
  │                                            │
  ▼                                            │
CASE 6: ──────────→ SET gradelvl = D ──────────┤
  │                                            │
  ▼                                            │
CASE 5: ─────────┐                             │
  │              │                             │
  ▼             │                              │
CASE 4: ─────────┴──────→ SET gradelvl = E ────┤
  │                                            │
  ▼                                            │
DEFAULT: ──────────→ SET gradelvl = F ─────────┤
                                               │
                                               ▼
                              PRINT "Grade
                              Level: Grade "
                                 gradelvl
                                   │
                                   ▼
                                  END
```

7. Supplementary Activity

8. Conclusion
In this activity, I was able to learn and understand more about how to structure a switch case. I learned that I can make it so that 2 cases can have the same outcome. I did this by stacking different cases with each other.I was also able to optimize the code so that I do not need to add print on each case but just print after the switch is done. I was also able to apply switch cases as a pseudo code instead of them being a bunch of an if else.

9. Assessment Rubric