Seatwork 4.1: Switch Case

Course Code: CPE007	**Program:** Computer Engineering
Course Title: Programming Logic and Design	**Date Performed:** Sep 10, 2025
Section: CPE11S1	**Date Submitted:** Sep 11, 2025
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6. Output

Code:

Tobias_CPE11S1_Switch-case.cpp

```cpp
#include <iostream>
using namespace std;

int main() {
    int Chemistry, DiscreteMath, Calculus, PATHfit, NSTP, UTS;

    cout << "Chemistry: ";
    cin >> Chemistry;

    cout << "DiscreteMath: ";
    cin >> DiscreteMath;

    cout << "Calculus: ";
    cin >> Calculus;

    cout << "PATHfit: ";
    cin >> PATHfit;

    cout << "NSTP: ";
    cin >> NSTP;

    cout << "UTS: ";
    cin >> UTS;

    int average = ( Chemistry + DiscreteMath + Calculus + PATHfit + NSTP + UTS) / 5;

    cout << " " << endl;
    cout << "Average is : " << average << endl;

    cout << "Grade Level: ";
    switch (average / 10) {
        case 10:
        case 9: cout << "A\n";
        break;
        case 8: cout << "B\n";
        break;
        case 7: cout << "C\n";
        break;
        case 6: cout << "D\n";
        break;
        case 5:
        case 4: cout << "E\n";
        break;
        default: cout << "F\n";
        break;
    }

    return 0;
}
```

```
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Chemistry: 80
DiscreteMath: 90
Calculus: 80
PATHfit: 90
NSTP: 80
UTS: 90

Average is : 102
Grade Level: A

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Process exited after 15.05 seconds with return value 0
Press any key to continue . . .
```

Pseudo Code:

Start

Input Chemistry
Input DiscreteMath
Input Calculus
Input PATHfit
Input NSTP
Input UTS

Average = (Chemistry + DiscreteMath + Calculus + PATHfit + NSTP + UTS) / 5
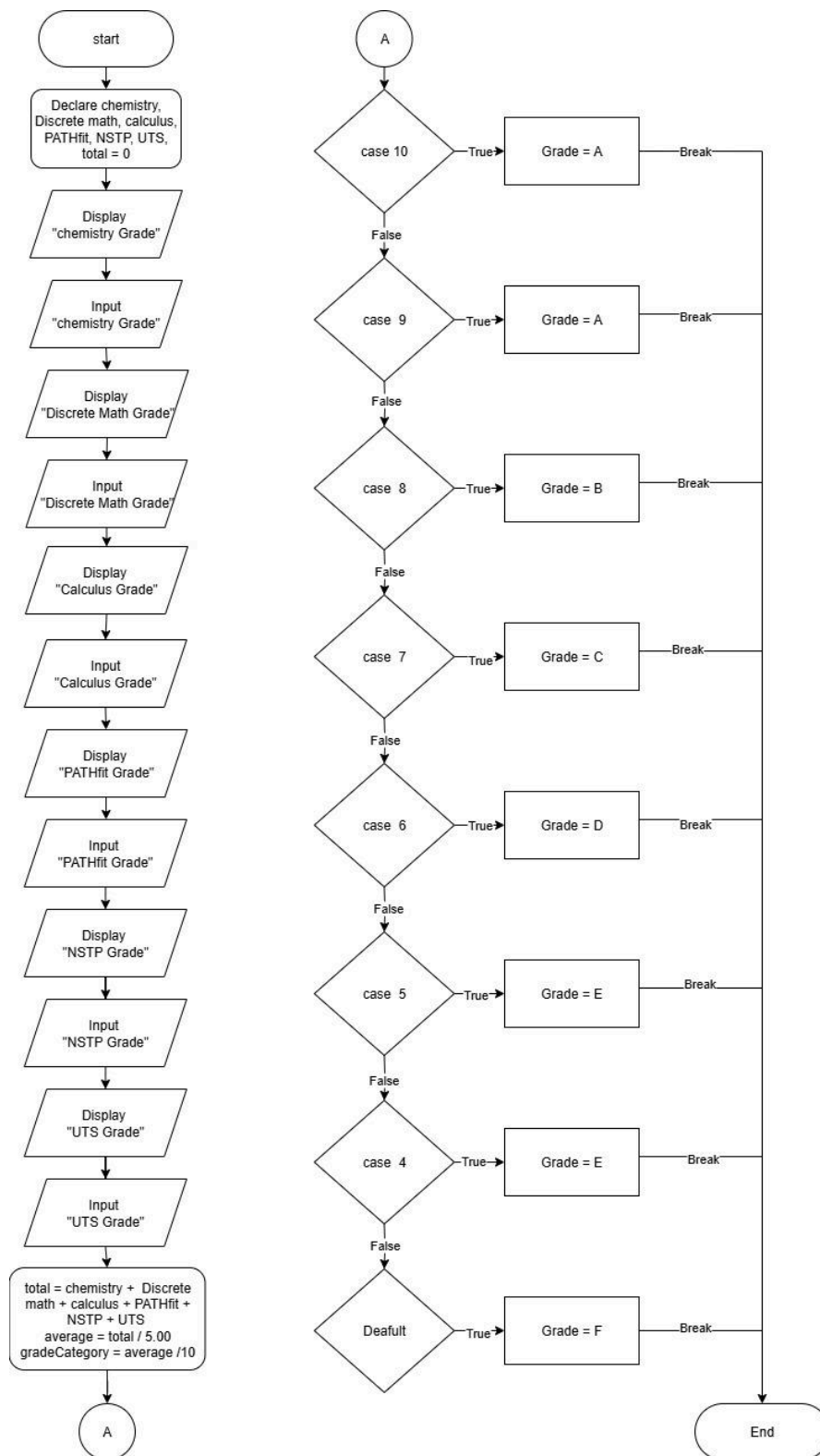
Print "Average is:"

Switch (Average / 10)
   Case 10, 9: Print "A"
   Case 8: Print "B"
   Case 7: Print "C"
   Case 6: Print "D"
   Case 5, 4: Print "E"
   Default: Print "F"
End Switch

End

Flow Chart:

```
        start                              ( A )
          │                                  │
          ▼                                  ▼
┌───────────────────┐                   ◇ case 10 ◇──True──►┌───────────┐──Break──┐
│ Declare chemistry,│                        │              │ Grade = A │         │
│Discrete math,     │                      False            └───────────┘         │
│calculus, PATHfit, │                        │                                    │
│NSTP, UTS, total=0 │                        ▼                                    │
└───────────────────┘                   ◇ case 9 ◇──True──►┌───────────┐──Break──┤
          │                                  │              │ Grade = A │         │
          ▼                                False            └───────────┘         │
     Display                                 │                                    │
  "chemistry Grade"                          ▼                                    │
          │                              ◇ case 8 ◇──True──►┌───────────┐──Break──┤
          ▼                                  │              │ Grade = B │         │
      Input                               False             └───────────┘         │
  "chemistry Grade"                          │                                    │
          │                                  ▼                                    │
          ▼                              ◇ case 7 ◇──True──►┌───────────┐──Break──┤
     Display                                 │              │ Grade = C │         │
 "Discrete Math Grade"                    False             └───────────┘         │
          │                                  │                                    │
          ▼                                  ▼                                    │
      Input                              ◇ case 6 ◇──True──►┌───────────┐──Break──┤
 "Discrete Math Grade"                       │              │ Grade = D │         │
          │                               False             └───────────┘         │
          ▼                                  │                                    │
     Display                                 ▼                                    │
  "Calculus Grade"                       ◇ case 5 ◇──True──►┌───────────┐──Break──┤
          │                                  │              │ Grade = E │         │
          ▼                               False             └───────────┘         │
      Input                                  │                                    │
  "Calculus Grade"                           ▼                                    │
          │                              ◇ case 4 ◇──True──►┌───────────┐──Break──┤
          ▼                                  │              │ Grade = E │         │
     Display                              False             └───────────┘         │
  "PATHfit Grade"                            │                                    │
          │                                  ▼                                    │
          ▼                              ◇ Deafult ◇─True──►┌───────────┐──Break──┤
      Input                                                 │ Grade = F │         │
  "PATHfit Grade"                                           └───────────┘         │
          │                                                                       │
          ▼                                                                       ▼
     Display                                                                  ( End )
  "NSTP Grade"
          │
          ▼
      Input
  "NSTP Grade"
          │
          ▼
     Display
  "UTS Grade"
          │
          ▼
      Input
  "UTS Grade"
          │
          ▼
┌────────────────────────┐
│ total = chemistry +    │
│ Discrete math +        │
│ calculus + PATHfit +   │
│ NSTP + UTS             │
│ average = total / 5.00 │
│ gradeCategory = average│
│ /10                    │
└────────────────────────┘
          │
          ▼
        ( A )
```

7. Supplementary Activity

8. Conclusion

This activity helped me learn how to use switch cases in C++ to determine grades from the average of three subjects. Writing the pseudocode and program was manageable, but making a complete flowchart was still challenging, so I need

more practice with it. Overall, the task improved my problem-solving, programming logic, and understanding of switch cases.

9. Assessment Rubric

Rubric for SO 7 (6)

Criteria	Ratings						Pts
SO 7 PI 1 IILO4 Utilize lifelong learning skills in pursuit of personal development and excellence in professional practice. threshold: 4.8 pts	**6 pts** Excellent | Educational interests and pursuits exist and flourish outside classroom requirements, knowledge and/or experiences are pursued independently and applies knowledge learned into practice	**5 pts** Good | Educational interests and pursuits exist and flourish outside classroom requirements, knowledge and/or experiences are pursued independently	**4 pts** Satisfactory | Look beyond classroom requirements, showing interest in pursuing knowledge independently	**3 pts** Unsatisfactory | Begins to look beyond classroom requirements, showing interest in pursuing knowledge independently	**2 pts** Poor | Relies on classroom instruction only	**1 pts** Very Poor | No initiative or interest in acquiring new knowledge	6 pts
SO 7 PI 2 IILO4 Utilize lifelong learning skills in pursuit of personal development and excellence in professional practice. threshold: 4.8 pts	**6 pts** Excellent | Completes an assigned task independently and practices continuous improvement	**5 pts** Good | Completes an assigned task without supervision or guidance	**4 pts** Satisfactory | Requires minimal guidance to complete an assigned task	**3 pts** Unsatisfactory | Requires detailed or step-by-step instructions to complete a task	**2 pts** Poor | Shows little interest to complete a task independently	**1 pts** Very Poor | No interest to complete a task independently	6 pts
SO 7 PI 3 IILO4 Utilize lifelong learning skills in pursuit of personal development and excellence in professional practice. threshold: 4.8 pts	**6 pts** Excellent | Synthesizes and integrates information from a variety of sources; formulates a clear and precise perspective; draws appropriate conclusions	**5 pts** Good | Evaluate information from a variety of sources; formulates a clear and precise perspective.	**4 pts** Satisfactory | Analyze information from a variety of sources; formulates a clear and precise perspective.	**3 pts** Unsatisfactory | Apply the gathered information to formulate the problem	**2 pts** Poor | Gather and summarized the information from a variety of sources but failed to formulate the problem	**1 pts** Very Poor | Gather information from a variety of sources	6 pts
SO 7 PI 4 IILO4 Utilize lifelong learning skills in pursuit of personal development and excellence in professional practice. threshold: 4.8 pts	**6 pts** Excellent | Ideas are combined in original and creative ways in line with the new and emerging technology trends to solve a problem or address an issue.	**5 pts** Good | Ideas are creative and adapt the new knowledge to solve a problem or address an issue	**4 pts** Satisfactory | Ideas are creative in solving a problem, or address an issue	**3 pts** Unsatisfactory | Shows some creative ways to solve the problem	**2 pts** Poor | Shows initiative and attempt to develop creative ideas to solve the problem	**1 pts** Very Poor | Ideas are copied or restated from the sources consulted	6 pts

Total Points: 24