Seatwork 4.1: Arrays	
Arrays	
Course Code: CPE010	**Program:** Computer Engineering
Course Title: Data Structures and Algorithms	**Date Performed:** 09/09/2025
Section: CPE11S1	**Date Submitted:**
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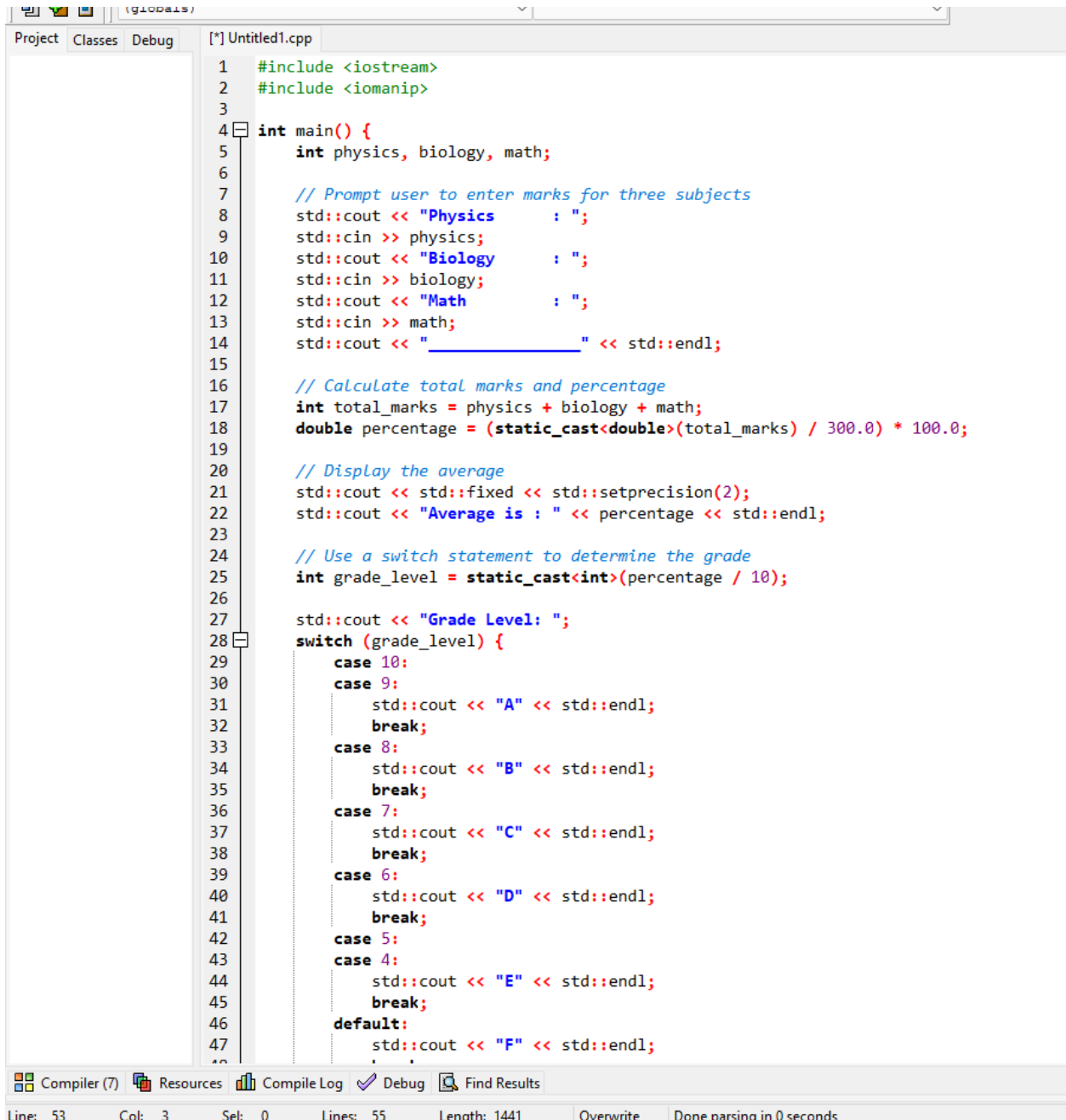
6. Output

CODE:

```cpp
#include <iostream>
#include <iomanip>

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

    // Prompt user to enter marks for three subjects
    std::cout << "Physics     : ";
    std::cin >> physics;
    std::cout << "Biology     : ";
    std::cin >> biology;
    std::cout << "Math        : ";
    std::cin >> math;
    std::cout << "_____" << std::endl;

    // Calculate total marks and percentage
    int total_marks = physics + biology + math;
    double percentage = (static_cast<double>(total_marks) / 300.0) * 100.0;

    // Display the average
    std::cout << std::fixed << std::setprecision(2);
    std::cout << "Average is : " << percentage << std::endl;

    // Use a switch statement to determine the grade
    int grade_level = static_cast<int>(percentage / 10);

    std::cout << "Grade Level: ";
    switch (grade_level) {
        case 10:
        case 9:
            std::cout << "A" << std::endl;
            break;
        case 8:
            std::cout << "B" << std::endl;
            break;
        case 7:
            std::cout << "C" << std::endl;
            break;
        case 6:
            std::cout << "D" << std::endl;
            break;
        case 5:
        case 4:
            std::cout << "E" << std::endl;
            break;
        default:
            std::cout << "F" << std::endl;
```

Project | Classes | Debug | [*] Untitled1.cpp

Compiler (7) | Resources | Compile Log | Debug | Find Results

Line: 53 | Col: 3 | Sel: 0 | Lines: 55 | Length: 1441 | Overwrite | Done parsing in 0 seconds

OUTPUT:

```
C:\Users\TIPQC\Documents\L   X    +   ∨

Physics       : 89
Biology       : 97
Math          : 98

_____
Average is : 94.67
Grade Level: A


_____
Process exited after 10.8 seconds with return value 0
Press any key to continue . . . |
```

7. Supplementary Activity

8. Conclusion

I learned about arrays in C++ and how they are used to store multiple values of the same data type. I now understand how to declare an array, initialize it with values, and access individual elements using their index. I also saw how arrays work really well with loops, especially for going through each element quickly. Before this, I didn't fully realize how useful arrays could be, but now I see that they make it much easier to work with large amounts of data instead of creating a bunch of separate variables.

9. Assessment Rubric

Rubric for SO 7 (7)

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