CSE108 – Computer Programming Lab.

Lab 3

Selection Operations

Due at 10am.

Hand in: A student with number 20180000001 should hand in a zip file named 20180000001.zip for this lab.

Part 1. Write a C program that takes three integers as input and finds the median of them. Use if statements and relational and equality operators to implement the logic. Logical operators (&&,||,!) are not allowed. You need to use nested if-else blocks for the solution.

Example Outputs:

```
Enter 3 integers: 2 8 5
Median number is 5
Enter 3 integers: 55 12 98
Median number is 55
Enter 3 integers: 67 62 17
Median number is 62
```

Part 2. Write a C program that takes 3 exam scores as input and prints out their corresponding grade with the average score. You need to use switch statements. The program should follow the grading system below:

90-100%: A+
80-89%: A
70-79%: B+
60-69%: B
50-59%: C
40-49%: D
Below 40%: F

Example Input/Output:

```
Enter your scores: 70 70 80
Your letter grades are B+, B+ and A with an 73.3 average.
```

Part 3.

Write a program in C that presents the user with four arithmetic operation options (+, -, *, /). The program will ask the user to enter two integers and calculate the result according to the selected operation. Then, it will check the result for correctness and display an appropriate message to the user.

Functional requirements:

- The program should ask the user to enter an arithmetic operation option (+, -, *, /).
- The program should ask the user to enter two integers.
- The program should perform calculations between the two numbers based on the selected operation.
- The program should display the calculated result to the user.
- The program should check the correctness of the result and display a message saying "Bravo, correct answer!" if the result is correct or "Wrong answer, try again." if the result is incorrect.

Example Outputs:

```
Enter an arithmetic operation (+, -, *, /): *

Enter two numbers: 4 5

Result: 20

Bravo, correct answer!


Enter an arithmetic operation (+, -, *, /): +

Enter two numbers: 3 4

Result: 8

Wrong answer, try again.
```

General Rules:

1. You will have two hours to provide a solution to the given problem set.
2. You will be able to hand in your solutions via Teams in the next two hours. The submission will be closed exactly at 10am.
3. There will be an interview session immediately after the submission deadline. Starting at 10am, you will be randomly invited to attend a meeting by a TA to demonstrate your solution and answer any questions asked by the TA.
4. You must be available until 1pm to respond to the demo invitation whenever you receive it. You will have 3 minutes after you are called via Teams. If you do not answer/appear in 3 minutes, you will miss you interview.

5. If you miss your interview or are unable to give satisfactory answers to the questions, you will receive a zero for that lab even if you have submitted your solution.
6. If you have not submitted a solution in time, you will not be invited for the interview and receive zero for that lab.
7. Due to time constraints, some students may not be invited to an interview. In that case, their solutions will be graded offline.
8. Unless you aren't declared for a specific prototype, you may use arbitrary but proper function and variable names that evoke its functionality.
9. The solution must be developed on a given version of OS and must be compiled with GCC compiler, any problem which arises due to using another OS or compiler won't be tolerated.
10. Note that if any part of your program is not working as expected, then you can get zero from the related part, even if it is working partially.
11. Zip your solution file before uploading it to MS Teams. The zip file must contain the C file with your solution and screenshots of the valid outputs of the program.