

Sample code snippet

ACCURATE FEEDBACK

T You
Question 2 (8 pts)
Write a program which keeps asking the user to input an even integer, then calculate and print out the sum of all even values from 0 to that number. The program stops when the user inputs an odd integer and print out an error message as below:
Sample Run:
Enter an even integer: 6
Sum of all even values from 0 to 6 is: 12
Enter an even integer: 10
Sum of all even values from 0 to 10 is: 30
Enter an even integer: 3
It is not an even integer.
Explanation: Sum of all even values from 0 to 10 is: $0 + 2 + 4 + \dots + 10 = 30$

T You
MARKING CRITERIA:
Correctness and Efficiency (80%)
- Program compiles without any errors or warnings.
- Program follows requirements and produces correct results for all inputs tested.
- Performs the required tasks efficiently and user-friendly. Note that the program does not need to apply complex mathematic formula to be efficient.
- If the program does not follow requirements, fails to compile, run, or crashes - you may lose up to 100% of the grade (although some marks may be given for the effort).

Code Style (20%)

Check all the requirements below:

- Nice code format (code lines are properly aligned and indented size of 4 spaces, consistent layout of { and }, blank line between two code sections, space between operators, etc.)
- Descriptive comment for each code section
- Descriptive file/function/constant/variable names that follow standard naming convention

ChatGPT
Thank you for providing the question prompt. Now, could you please share the work of Student 1 for this question?

T You

```
#include <stdio.h>
int main (){

    //take user input
    int input = 0;
    int sum = 0;

    do {; // a loop for the user to put even number
        printf("Enter an even integer: ");
        scanf("%d", &input);
        sum += input;

        if (input % 2 == 0){ //check if the number is even
            printf("Sum of all even values from 0 to %d is: %d\n", input, sum);
        } else { //if the number is odd
            printf("It is not an even integer.\n");
        }
    } while (input % 2 == 0 && input >= 0);

    return 0;
}
```

ChatGPT
Thank you for providing the detailed marking criteria. Let's proceed with evaluating Student 1's code based on these criteria.

Detailed Note for the lecturer:

1. **Correctness and Efficiency (80%):**
 - Program Compiles: The program compiles without errors or warnings.
 - Requirements and Results: The program partially follows the requirements but fails to produce correct results for all inputs tested. It miscalculates the sum of even values.
 - Efficiency: The program executes the required tasks efficiently.
 - User-Friendly: The program provides clear prompts and error messages, enhancing user-friendliness.
2. **Code Style (20%):**
 - Code Format: The code format meets the criteria with proper alignment, indentation, and consistent layout of braces and operators.
 - Comments: Descriptive comments are lacking for code sections.
 - Naming Convention: Variable names are not descriptive, and they do not follow standard naming conventions.

Suggested Feedback and Score:

- **Correctness and Efficiency (80%):** Despite compiling successfully and executing tasks efficiently, the program's failure to calculate the sum of even values correctly significantly impacts its correctness.
- **Code Style (20%):** While the code format meets requirements, descriptive comments and improved variable naming would enhance readability and adherence to standard conventions.

Suggested Score: Correctness and Efficiency (60%) + Code Style (15%) = 75%.

Would you like to proceed with this score, or do you have any adjustments in mind? Once finalized, we can move on to evaluate the work of other students.

ACCURATE AND VERY DETAILED FEEDBACK (which give directions for the students to improve).

You

Next Student:

```
Q1:
#include <stdio.h>
#include <math.h>
int main() {
    float a, b, c;
    float ab = a + b, ac = a + c, bc = b + c;
    //Let user input three numbers and save it into a variable
    while(1) {
        printf("Enter three numbers: ");
        scanf("%f %f %f", &a, &b, &c);

        //Check if no numbers sum is equal to other
        if(ab < c || ab > c || ac < b || ac > b || bc < a || bc > a) {
            printf("NO \n");
        }
        else {
            //If there two number sum equal to the other number
            printf("A number is the sum of the others: ");
            if(ab = c) {
                printf("YES \n");
            }
            else if(ac = b) {
                printf("YES \n");
            }
            else if(bc = a) {
                printf("YES \n");
            }
            else if(ab = c) {
                printf("YES \n");
            }
        }

        return 0;
    }
}
```

Assessment of the Next Student's Submissions

Question 1

Correctness and Efficiency (80%)

- The provided code has numerous issues, starting with its logic and syntax errors:
 - The variables `ab`, `ac`, and `bc` are calculated before the user inputs `a`, `b`, and `c`. This results in uninitialized values being used, leading to undefined behavior.
 - The code uses assignment (`=`) in conditions, which should be comparison (`==`). The `if` conditions are also logically incorrect as they use assignment instead of comparison.
 - The loop is infinite (`while(1)`) without a break condition, which means the program cannot terminate correctly under normal circumstances.
 - The structure of conditions is flawed, as it checks for inequality and then equality in an illogical manner.
- The intention seems to be checking if the sum of any two numbers equals the third, but the implementation does not correctly enforce this logic.

Code Style (20%)

- The comments are somewhat helpful but are misleading due to the errors in the code logic.
- Code formatting needs improvement, particularly in the use of spaces and structure to improve readability.

Total Suggested Score: 1/8 (due to significant logical flaws, misuse of operators, and initialization issues)

Sample code snippet

BUT SOMETIME, IT COULD BE INACCURATE AT SOME POINTS

T

You

Question 1 (8 pts)

Prompt the user to enter three float numbers, check if among them, a number is the sum of other two numbers or not, and print out a YES/NO message as below:

Sample Run:

Enter three float numbers: 13.5 40.7 27.2

A number is the sum of the others: YES

T

You

MARKING CRITERIA:

Correctness and Efficiency (80%)

- Program compiles without any errors or warnings.
- Program follows requirements and produces correct results for all inputs tested.
- Performs the required tasks efficiently and user-friendly. Note that the program does not need to apply complex mathematic formula to be efficient.
- If the program does not follow requirements, fails to compile, run, or crashes - you may lose up to 100% of the grade (although some marks may be given for the effort).

Code Style (20%)

Check all the requirements below:

- Nice code format (code lines are properly aligned and indented size of 4 spaces, consistent layout of { and }, blank line between two code sections, space between operators, etc.)
- Descriptive comment for each code section
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T

You

Q1:

```
#include <stdio.h>
```

```
int main(void) {  
    float num1, num2, num3;
```

```
    printf("Enter 3 float numbers: ");  
    scanf("%f %f %f", &num1, &num2, &num3);
```

```
    if (num1 + num2 == num3) {  
        printf("A number is the sum of the others: YES");  
    } else if (num1 + num3 == num2) {  
        printf("A number is the sum of the others: YES");  
    } else if (num2 + num3 == num1) {  
        printf("A number is the sum of the others: YES");  
    } else {  
        printf("A number is the sum of the others: NO");  
    }  
    return 0;  
}
```

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Let's evaluate the revised programs provided by Student 1.

Question 1:

Detailed Note for the lecturer:

• **Correctness and Efficiency (80%):**

- The program correctly checks if one number is the sum of the others.
- However, it only handles the case where one number is the sum of the other two, not all three permutations.

• **Code Style (20%):**

- Indentation and formatting are consistent and appropriate.
- No descriptive comments are provided.
- Variable names are concise but lack meaningfulness.

Feedback and score for the student:

- The program correctly identifies if one number is the sum of the other two.
- However, it only handles one case out of three possible permutations, violating the requirement.
- Code style is acceptable, but adding descriptive comments could enhance readability.

Suggested Feedback: Ensure the program handles all permutations where one number is the sum of the other two. Consider adding descriptive comments for clarity. Score: 6/8.