1. **DESCRIBE THE CONDITION** of an *if* block. (“The condition is a ...”)

2. For each of these kinds of statements, mark **CAN** if it can appear inside a clause of an *if* block, and mark **CANNOT** if it cannot appear inside a clause of an *if* block. **EXPLAIN** each.
   
   - (a) A named constant declaration
   
   - (b) A variable declaration
   
   - (c) A `printf` statement
   
   - (d) A `scanf` statement
   
   - (e) An assignment statement
   
   - (f) An *if* block
3. For each of the following programs, **WHAT IS THE OUTPUT** for each of the given sets of input? Your answer does not need to include the message that prompts the user to input the data, nor the user’s input. If you aren’t confident of your answer, type in, compile and run the C program to test it.

(a) #include <stdio.h>
    int main ()
    {
        int input_value1, input_value2;
        int aggregate = 0;

        printf("Input two integers:\n");
        scanf("%d %d", &input_value1, &input_value2);
        printf("Before\n");
        if (input_value1 < input_value2) {
            printf("First\n");
            aggregate = input_value1 + input_value2;
        } /* if (input_value1 < input_value2) */
        printf("After\n");
        printf("aggregate = %d\n", aggregate);
    } /* main */

i. 1 2

ii. 2 1

iii. 2 2

iv. **Draw** the flowchart (on a separate page if necessary).
(b) #include <stdio.h>
int main ()
{ /* main */
    int input_value1, input_value2;
    int aggregate = 0;

    printf("Input two integers:\n");
    scanf("%d %d", &input_value1, &input_value2);
    printf("Before\n");
    if (input_value1 < input_value2) {
        printf("First\n");
        aggregate = input_value1 + input_value2;
    } /* if (input_value1 < input_value2) */
    else {
        printf("Second\n");
        aggregate = input_value1 - input_value2;
    } /* if (input_value1 < input_value2)...else */
    printf("After\n");
    printf("aggregate = %d\n", aggregate);
} /* main */

i. 1 2

ii. 2 1

iii. 2 2

iv. Draw the flowchart (on a separate page if necessary).
4. **Write a C program** that inputs a real value, calculates its absolute value, and outputs the absolute value. You **DON’T** need to have comments; otherwise, all programming project rules apply, through PP#4.

Also, **draw the flowchart.**