Read each question carefully and *encircle* the appropriate choice.

Name: _____ Reg. No. _____

Instructor: Usman Ayub Sheikh

1. (1 point) Every C++ program *must* contain one _____ function.
   A. using
   B. main
   C. int
   D. cout

2. (1 point) Which of the following is *not* a C++ data type?
   A. int
   B. float
   C. char
   D. single

3. (1 point) The only language that is *completely* understood by computers is _____.
   A. Assembly language
   B. machine language
   C. C++
   D. english language

4. (1 point) Which of the following is *not* a C++ relational operator.
   A. <
   B. <>
   C. ==
   D. >=

5. (1 point) Which of the following expressions has *not* been computed correctly.

	Expression	Computes to
A	`!('x' <= 'y' || 'x' >= 'y' && 5.5 > 3)`	0
B	`(2.5 < 2.6 && 'c' != 'C')`	1
C	`(1 <= 6 % 2 && 2.05 > 20.5)`	0
D	`(1 && 25 > 24 || 'a' > 'b')`	0
E	`(1 || 'd' > 'c' && 1)`	1

6. (5 points) Obesity can cause a number of problems including diabetes and heart disease. In order to determine whether a person is overweight or obese, a measure known as Body Mass Index (BMI) is used. BMI is defined as:

$$BMI = \frac{weight}{height^2}$$

where weight is taken in kilograms and height in meters.

In this problem, you are required to answer a few questions related to a program that takes *height* and *weight* of the user as an input, calculates his/her BMI, and displays a message such as "underweight", "healthy", "overweight" or "obese" based on the following graduation:

Expression	Output
BMI < 18.5	underweight
18.5 <= BMI < 25.0	healthy
25.0 <= BMI < 30.0	overweight
30.0 <= BMI	obese

(a) Which data type would be most appropriate for BMI?

A. int
B. short
C. float
D. char

(b) Which of the following gives a correct set of True and False corresponding to numerical labels in the flowchart figure?

	1	2	3	4	5	6
A	True	False	True	True	True	False
B	False	True	False	True	False	True
C	True	False	True	False	True	True
D	True	False	True	False	True	False

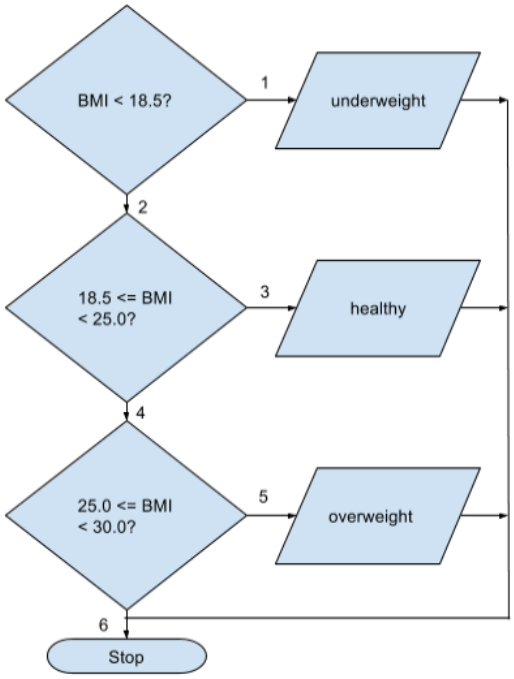

Figure: Decision block of the BMI calculator

(c) Which C++ decision statement would be most appropriate for programming the behavior as shown in the figure?

A. `if` statement
B. `if...else` statement
C. `switch` statement
D. nested `switch` statement (`switch` within a `switch`)