

1.1. Which of the following is used to indicate a block comment in C/C++ source code?

☐ % Comment %

☐ { Comment }

☒ /* Comment */ —>Multi-line comments start with /* and ends with */. Any text between /* and */ will be ignored by the compiler.

☐ (* Comment *)

1.2. Which of the following is used to create a variable with the numeric value 5?

☒ double x = 5; declare variable x as real number and assign value 5 to it

☒ int x = 5; declare variable x as integer number and assign value 5 to it

☐ num x = 5;

☐ x = 5;

1.3. Which of the following is used to create a variable with the floating number 2.8?

☐ byte x = 2.8;

☒ double x = 2.8; declare variable x as real number and assign value 2.8 to it

☐ int x = 2.8;

☐ x = 2.8;

1.4. Identify whether C/C++ standards allow for each of the following cases. If a case is unallowable, suggest a workaround solution.

No it can't, change single quotes to double quotes The value of a string variable can be surrounded by single quotes.

Not a valid variable name, class_24clc10 24clc10 is a valid variable name.

Not syntax error, the value of integer variable will be 4 Assigning 4.12 to a variable of type integer is syntactically error.

1.5. Consider the following code fragment. Which value is held by the variable c after the last line is executed?

```
1  int a, b;
2  float c;
3  a = 7; b = 3;
4  c = a / b;
```

☐ 0

☐ 3

☐ 2

☒ 2.3333333

1.6. Add the most appropriate data type for the following variables

```
1  _____int_____ myNum = 9;
2  _____float_____ myDoubleNum = 8.99;
3  _____char_____ myLetter = 'A';
4  _____bool_____ myBool = false;
5  _____string_____ myText = "Hello World";
```

1.7. What is the output of the following code fragment? Explain for every line.

the output is: 10

```
1  int x = 5, y = 5, z; // declare x, y, x as integer numbers and assign value 5 to x, y
2  z = ++x; // x = 6, z = 6
3  y = --y; // y = 4
4  z = x++ + y--; // z = 6 + 4 = 10, x = 7, y = 3
5  cout << z; // print 10
```

1.8. The following int variables hold the same decimal value, yet they are represented in different number bases. Which decimal value is held in these variables? Identify the base in each variable.

```
1  int a, b, c, d, e;
2  a = 223; base: decimal
3  b = 0337; base: octal
4  c = 0xdf; base: hexadecimal
5  d = 0xDF; base: hexadecimal
6  e = 0b11011111; base: binary
```

all of these variable hold value 223 in decimal

1.9. In your opinion, discuss the advantages and disadvantages of C++ over C.

advantages	disadvantages
- Has a large function library	- Complexity

1.10. List all primitive data types available in C++ and their ranges.

data type	range
int	-32.768 ... +32.767
long int	-2.147.483.648 ... +2.147.483.647
float	3.4×10^{-38} ... 3.4×10^{38}
double	1.7×10^{-308} ... 1.7×10^{308}
char	-128 ... +127
bool	0 1