



**CS 111 FUNDAMENTALS OF PROGRAMMING**  
**MIDTERM EXAMINATION**

Name: \_\_\_\_\_ Course & Year: \_\_\_\_\_ Score: \_\_\_\_\_

**Test I. True or False.** This test evaluates your understanding of basic C++ syntax and concepts. Determine whether each statement is "True" or "False." Write your answer on the space provided before the number.

- \_\_\_\_\_ 1. The comparison operator "!=" checks if two values are not equal.
- \_\_\_\_\_ 2. "#include <iostream>," is a C++ statement that performs a mathematical calculation.
- \_\_\_\_\_ 3. "\n" is an escape sequence that inserts a double quote character in C++.
- \_\_\_\_\_ 4. The comparison operator "<=" checks if the left operand is less than or equal to the right operand.
- \_\_\_\_\_ 5. To store text in C++, you should use the "char" variable type.
- \_\_\_\_\_ 6. "\t" is an escape sequence in C++ that creates a horizontal tab.
- \_\_\_\_\_ 7. The "cout" object, in combination with the "<<" operator, is used to input data in a C++ program.
- \_\_\_\_\_ 8. Every C++ statement must end with a semicolon ";".
- \_\_\_\_\_ 9. "using namespace std" allows us to use names for objects and variables from the standard library without explicitly specifying "std::"
- \_\_\_\_\_ 10. The body of the "main" function can be written on a single line without affecting the program's functionality.
- \_\_\_\_\_ 11. In C++, the switch statement is used to execute one specific code block based on a selected value.
- \_\_\_\_\_ 12. "return 0" is used to terminate the "main" function in C++.
- \_\_\_\_\_ 13. The "double" variable type in C++ is used to store single characters like 'a' or 'B'.
- \_\_\_\_\_ 14. The comparison operator "==" checks if two values are equal.
- \_\_\_\_\_ 15. Blank lines in C++ code are always ignored by the compiler.
- \_\_\_\_\_ 16. C++ supports logical conditions such as less than, greater than, and equal to.
- \_\_\_\_\_ 17. "int main()" is a function declaration in C++ and represents the starting point of execution for a C++ program.
- \_\_\_\_\_ 18. The comparison operator ">" checks if the left operand is greater than the right operand.
- \_\_\_\_\_ 19. The comparison operator ">=" checks if the left operand is greater than or equal to the right operand.
- \_\_\_\_\_ 20. "\n" and "endl" are used to break lines in C++.
- \_\_\_\_\_ 21. The escape sequence "\t" is used in C++ to insert a new line.
- \_\_\_\_\_ 22. "using namespace std" line can be omitted and replaced with the "std" keyword followed by the "::" operator to access objects in the standard library.
- \_\_\_\_\_ 23. Arithmetic operators are used for common mathematical operations in C++.
- \_\_\_\_\_ 24. The "int" variable type is used to store whole numbers without decimals.
- \_\_\_\_\_ 25. The "default" case in a C++ switch statement is required and must be included in all switch statements.
- \_\_\_\_\_ 26. The comparison operator "<" checks if the left operand is less than the right operand.
- \_\_\_\_\_ 27. The code below uses the correct keyword to get user input and store it in the variable x.
- \_\_\_\_\_ 28. "char" is used to store single characters like 'a' or 'B'.

**Test II. Multiple Choice.** Choose the best answer for each question. Write your answer before the number.

1. What does the addition operator (+) do in C++?
  - a. Subtracts one value from another
  - b. Divides one value by another
  - c. Multiplies two values
  - d. Adds together two values
2. Which variable type is used to store floating-point numbers with decimals?
  - a. int
  - b. char
  - c. double
  - d. string
3. What is the role of the "break" keyword in a C++ switch statement?
  - a. To indicate a comment in the code
  - b. To specify the default case
  - c. To exit the switch statement and continue with the next statement outside the switch
  - d. To define a new variable
4. What does the "Logical and" operator (&&) do in C++?
  - a. Adds two values together
  - b. Returns true if both statements are true
  - c. Subtracts one value from another
  - d. Multiplies two values
5. What does the escape sequence "\n" do in C++?
  - a. Creates a horizontal tab
  - b. Inserts a backslash character
  - c. Forces the cursor to change its position to the beginning of the next line
  - d. Inserts a double quote character
6. Create a variable called z, assign x + y to it, and display the result.
  - a. 15
  - b. x
  - c. y
  - d. z
7. What is the purpose of the "else" statement in C++?
  - a. To specify a new condition to test
  - b. To specify a block of code to be executed if the first condition is true
  - c. To specify a block of code to be executed if the condition is false
  - d. To specify many alternative blocks of code to be executed
8. What is the purpose of the increment operator (++x) in C++?
  - a. Increases the value of a variable by 1
  - b. Decreases the value of a variable by 1
  - c. Divides one value by another
  - d. Adds together two values
9. Which C++ conditional statement is used to execute code if a condition is true?
  - a. if
  - b. else
  - c. else if
  - d. switch
10. What does the subtraction operator (-) do in C++?
  - a. Adds together two values
  - b. Divides one value by another
  - c. Subtracts one value from another
  - d. Returns the division remainder
11. What is the purpose of the decrement operator (--x) in C++?
  - a. Adds together two values
  - b. Multiplies two values
  - c. Subtracts one value from another
  - d. Decreases the value of a variable by 1

12. What should be filled in to print the sum of two numbers input by the user?
  - a. x; y; sum;
  - b. cin >> x; cin >> y; sum;
  - c. cin >> x; cin >> y; sum = x + y;
  - d. int x; int y; sum = x + y;
13. What does the "Logical or" operator (||) do in C++?
  - a. Returns true if one of the statements is true
  - b. Divides one value by another
  - c. Adds together two values
  - d. Multiplies two values
14. Display the sum of 5 + 10, using two variables: x and y.
  - a. double x == 5;
  - b. double x = 5;
  - c. int x = 5;
  - d. int x == 5;
15. Add the correct data type in ascending order:
  - a. double, character, boolean, integer, string
  - b. integer, double, character, boolean, string
  - c. character, double, string, boolean, integer
  - d. string, boolean, double, integer, character
16. When might you use "else if" in C++?
  - a. To specify a block of code to be executed if a condition is true
  - b. To specify a new condition to test if the first condition is false
  - c. To specify a block of code to be executed if the same condition is false
  - d. To specify many alternative blocks of code to be executed
17. What does the "Logical not" operator (!) do in C++?
  - a. Adds together two values
  - b. Reverses the result, returns false if the result is true
  - c. Subtracts one value from another
  - d. Multiplies two values
18. Which variable type in C++ can store values with two states, either "true" or "false"?
  - a. int
  - b. double
  - c. char
  - d. bool
19. Fill in the missing parts to create three variables of the same type:
  - a. int x = 5; y = 6; z = 50;
  - b. int x = 5, y = 6, z = 50;
  - c. float x = 5; y = 6; z = 50;
  - d. float x = 5, y = 6, z = 50;
20. What does the modulus operator (%) do in C++?
  - a. Adds two values together
  - b. Subtracts one value from another
  - c. Multiplies two values
  - d. Returns the division remainder
21. What does the multiplication operator (\*) do in C++?
  - a. Divides one value by another
  - b. Returns the division remainder
  - c. Adds together two values
  - d. Multiplies two values
22. What does the escape sequence "\n" do in C++?
  - a. Inserts a backslash character
  - b. Creates a horizontal tab
  - c. Forces the cursor to change its position to the beginning of the next line
  - d. Inserts a double quote character

23. Create a variable named myNum and assign the value 50 to it.
- a. `int myNum = 50`
  - b. `double myNum = 50`
  - c. `int myNum == 50`
  - d. `bool myNum = 50`
24. In a C++ switch statement, what is the purpose of the "case" keyword?
- a. To define a new variable
  - b. To specify the value that is being compared
  - c. To end the switch statement
  - d. To specify the code block to be executed if there's a match

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