C# Multiple Choice & Practical Coding Questions

Functions

1. What keyword is used to define a function in C#?

A) method B) func C) def D) void

2. What is the return type of a function that doesn't return anything?

A) null B) void C) empty D) none

3. How do you call a method named Greet()?

A) Greet[] B) call Greet() C) Greet() D) Greet;

4. What is the correct way to define a method with no parameters?

A) void Hello[] B) void Hello() C) Hello{} D) function Hello()

5. What is the correct syntax to return a value from a method?

A) send value; B) value return; C) return value; D) break value;

6. Where are parameters defined in a method?

A) After return B) Inside curly braces C) Inside parentheses D) Outside method body

7. What does ref keyword do in method parameters?

A) Copies value B) Sends data by value C) Passes parameter by reference D) Returns multiple values

8. What is a method signature?

A) Only return type B) Method name only C) Method name + parameter types D) Complete method body

9. Can two methods have the same name with different parameters?

A) No B) Only in classes C) Yes, called overloading D) Only with ref parameters

10. Which keyword stops method execution?

A) break B) stop C) halt D) return

11. What does params keyword allow?

A) Pass no parameters B) Accept multiple fixed parameters C) Accept variable number of arguments D) Restrict parameter type

12. What is a recursive function?

A) Returns to main method B) Repeats loop C) Calls itself D) Has multiple parameters

13. What is the default return type if none is specified?

A) int B) object C) void D) Error

14. What does static keyword in method mean?

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A) Can only run once B) Belongs to instance C) Belongs to class D) Cannot return

15. What is an anonymous method?

A) Method with no return type B) Method with no name C) Static method D) Global method

16. Can a method return an array?

A) Yes B) No C) Only void methods D) Only using out

17. What is the output type of int Add(int x, int y)?

A) void B) string C) int D) object

18. What does out keyword do?

A) Pass parameter by copy B) Return multiple values C) Prevent returning D) Throw exception

19. Can a function call itself in C#?

A) No B) Only in main C) Yes, that is recursion D) Only with loop

20. What is the keyword to define a method inside a class?

A) new B) def C) method D) void/int/etc.

21. Which of the following is NOT a valid return type?

A) int B) string C) decimal D) method

22. Can we have a method inside another method in C#?

A) Yes B) No C) Only in main D) Only using static

23. How many return statements can a method have?

A) Only one B) None C) Multiple D) Unlimited if void

24. What is the purpose of Main() method?

A) Debugging B) Default constructor C) Entry point D) Error handler

25. Which of these can be method names?

A) 1Method B) method$ C) _Method D) class

26. How do you return nothing from a method?

A) return null; B) return void; C) return; D) void return;

27. Can a method be both static and public?

A) No B) Yes C) Only private D) Only with void

28. What happens if a non-void method doesn't return a value?

A) Nothing B) Error C) Warning only D) Null returned

29. What is method overloading?

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A) Calling many methods B) Two methods with same name but different parameters C) Defining same method twice D) Using loops in methods

30. What is the purpose of async keyword in C# functions?

A) Faster compile time B) Enable multi-threading C) Allow await/async operations D) Return multiple results

Loops

1. Which loop guarantees at least one execution?

A) for B) while C) do-while D) foreach

2. What is the output of this loop: for (int i = 0; i < 3; i++) Console.Write(i);?

A) 123 B) 012 C) 345 D) 013

3. Which keyword exits the current loop?

A) return B) stop C) break D) exit

4. What does continue do inside a loop?

A) Stops all loops B) Skips the next loop C) Skips current iteration D) Ends loop

5. Which loop is best when number of iterations is known?

A) while B) do-while C) for D) goto

Arrays

1. What is the correct way to declare an array of 5 integers?

A) int arr[5]; B) int arr = new int[5]; C) int[] arr = new int[5]; D) array<int> arr = 5;

2. What is the index of the first element in a C# array?

A) 1 B) 0 C) -1 D) Depends on OS

3. How do you access the third element in an array named numbers?

A) numbers(3) B) numbers[2] C) numbers{3} D) numbers<3>

4. What is the result of int[] x = new int[3];?

A) x has 0 elements B) x has 3 elements all set to 0 C) x has null values D) Syntax error

5. What is the length of int[] a = {1, 2, 3, 4};?

A) 3 B) 4 C) 5 D) Cannot be determined

Exceptions

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1. What keyword is used to catch exceptions?

A) handle B) catch C) except D) trap

2. What does the try block do?

A) Stops code B) Tests a value C) Contains risky code D) Always runs first

3. What is thrown when dividing by zero?

A) ArithmeticException B) DivideByZeroException C) NullReferenceException D) ArgumentException

4. Which block must follow a try block?

A) handle B) finally C) catch D) exit

5. What does the finally block do?

A) Runs only on error B) Runs after catch C) Always runs D) Skips if no error

Data Types

1. What is the default value of an int in C#?

A) -1 B) null C) 0 D) 1

2. Which of the following is a value type?

A) string B) object C) int D) class

3. What keyword is used to declare a variable that cannot be changed?

A) static B) readonly C) const D) immutable

4. Which data type is used to store true or false values?

A) int B) boolean C) bool D) bit

5. What is the size of a float in C#?

A) 2 bytes B) 4 bytes C) 8 bytes D) 1 byte

Operators

1. What is the result of 5 + 3 * 2?

A) 11 B) 16 C) 13 D) 10

2. Which operator is used to check equality?

A) = B) := C) == D) ===

3. What does the % operator do?

A) Division B) Multiplication C) Remainder D) Percentage

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4. Which operator is used to increase a value by 1?

A) += B) ++ C) inc D) add

5. What is the output of true && false?

A) true B) false C) error D) null

Access Modifiers

1. Which access modifier allows access from any class?

A) private B) public C) internal D) protected

2. Which modifier restricts access to the same class only?

A) public B) protected C) private D) static

3. What does the internal modifier mean?

A) Access within same namespace B) Access from other assemblies C) Access only inside methods D) Access within same assembly

4. Which modifier allows access in derived classes only?

A) private B) protected C) internal D) public

5. What is the most restrictive access modifier?

A) internal B) protected C) private D) sealed

Input/Output

1. Which method is used to read user input from the console?

A) Console.Read() B) Console.ReadLine() C) Input.Read() D) System.Input()

2. What is the return type of Console.ReadLine()?

A) int B) char C) string D) object

3. How do you write output to the console?

A) print() B) Console.Output() C) Console.WriteLine() D) System.Write()

4. What does Console.Write() do differently from Console.WriteLine()?

A) Adds a newline B) Reads input C) Does not add a newline D) Adds a space

5. How to read a single character from the console?

A) Console.ReadChar() B) Console.ReadLine()[0] C) Console.ReadKey().KeyChar D) Console.Read().Char

6. Which namespace contains console input/output functions?

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A) System.IO B) System.Console C) System.Text D) System

7. How do you format a string in WriteLine()?

A) Console.WriteLine("Hi " + name) B) Console.WriteLine("Hi {0}", name) C) Console.WriteLine($"Hi {name}") D) All of the above

8. Which function pauses for a key press?

A) Console.Wait() B) Console.ReadLine() C) Console.ReadKey() D) Console.Hold()

9. What does Console.Read() return?

A) string B) char C) int D) object

10. Which method is used to clear the console screen?

A) Console.Clear() B) Console.Erase() C) Console.Reset() D) Console.Flush()

11. What is the purpose of Console.Error.WriteLine()?

A) Display warnings B) Display errors C) Log debug D) Input from user

12. What is printed by this code?

Console.Write("X"); Console.Write("Y");

A) X Y B) X C) XY D) X\nY

13. What happens if you enter a number and read it with Console.ReadLine()?

A) Stored as string B) Stored as int C) Compiler error D) Exception

14. How to convert string input to integer safely?

A) Convert.ToInt32() B) int.Parse() C) int.TryParse() D) All of them

15. What happens if int.Parse("abc") is executed?

A) 0 B) null C) Exception D) "abc"

16. Which method is preferred to avoid exceptions while parsing?

A) Convert.ToInt32() B) int.Parse() C) int.TryParse() D) ParseExact()

17. What does this print?

Console.Write("A"); Console.WriteLine("B");

A) A B B) AB C) A\nB D) A \n B

18. What does Console.BackgroundColor affect?

A) Text color B) Console window C) Console background D) Console size

19. What method sets cursor position on screen?

A) Console.SetCursor() B) Console.MoveTo() C) Console.SetCursorPosition() D) Console.Cursor()

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20. Which method reads a key without displaying it?

A) Console.ReadKey(true) B) Console.ReadKey(false) C) Console.Read() D) Console.ReadLine()

21. Which of these clears user input in the console?

A) Console.Clear() B) Console.Reset() C) Console.Close() D) Console.Clean()

22. Can Console.WriteLine() output formatted values?

A) Yes B) No C) Only strings D) Only variables

23. Which method is best for secure password input?

A) Console.ReadLine() B) Console.Read() C) Console.ReadKey(true) D) Console.GetPassword()

24. What does Console.Title = "App" do?

A) Prints title B) Sets window title C) Declares variable D) Renames console

25. Which key property can you read from Console.ReadKey()?

A) Key B) Value C) Char D) Input

26. How do you change the text color in console?

A) Console.FontColor B) Console.ForegroundColor C) Console.TextColor D) Console.Color

27. What does Console.WriteLine("\nHello") print?

A) Hello B) \nHello C) (newline)Hello D) Error

28. What happens if you press Enter on Console.ReadKey()?

A) It waits B) It throws error C) It returns key info D) It exits app

29. Can you write to console without newline?

A) Yes, with Write() B) No C) Only WriteLine() D) Only with flush

30. What is the purpose of Console.In?

A) Reads keyboard B) Controls file output C) Handles standard input stream D) Closes console

File Handling

1. Which namespace is required for file operations?

A) System.Data B) System.IO C) System.Files D) System.FileHandling

2. What class is used to read text files line by line?

A) Stream B) File C) StreamReader D) FileReader

3. What class is used to write text to a file?

A) FileStream B) FileWriter C) StreamWriter D) TextWriter

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4. Which method reads all lines from a file into a string array?

A) File.Read() B) File.ReadLines() C) File.ReadAllLines() D) File.GetLines()

5. Which method creates a file if it doesn't exist?

A) File.Make() B) File.Create() C) File.Open() D) File.Build()

6. What happens if you use File.Create() on an existing file?

A) Appends content B) Deletes the file C) Overwrites it D) Throws an error

7. What does File.Exists("data.txt") return?

A) void B) string C) bool D) file object

8. What method is used to delete a file?

A) File.Drop() B) File.Remove() C) File.Delete() D) File.Cut()

9. What type does File.ReadAllText() return?

A) string B) char array C) int D) FileStream

10. How do you append text to a file?

A) File.WriteAppend() B) File.WriteAllLines() C) File.AppendAllText() D) File.ContinueWrite()

11. Which stream is unidirectional and used only for reading?

A) StreamReader B) FileStream C) StreamWriter D) MemoryStream

12. Which exception occurs if the file path is wrong?

A) IOException B) FileNotFoundException C) PathException D) NullReferenceException

13. What does StreamWriter.WriteLine() do?

A) Reads file B) Appends binary C) Writes text and newline D) Opens file dialog

14. What is the default encoding used by StreamWriter?

A) ASCII B) UTF8 C) UTF16 D) Binary

15. How do you close a file after reading with StreamReader?

A) Dispose() B) End() C) Close() D) Stop()

16. What happens if StreamWriter is not closed?

A) No issue B) File may lock or data may not write C) Exception occurs D) File gets deleted

17. Which method allows reading file content line by line in a loop?

A) ReadAllLines() B) ReadLine() C) ReadFile() D) GetNextLine()

18. What is the correct way to use a StreamReader with using?

A) using(StreamReader sr = new StreamReader(path)) B) using FileReader C) using.Read(path) D) open

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sr(path)

19. What type of file can File.WriteAllBytes() handle?

A) text only B) binary files C) csv D) XML only

20. What does File.Copy(source, destination) do?

A) Moves file B) Reads source only C) Duplicates file D) Renames file

21. Which stream allows both reading and writing to a file?

A) BinaryReader B) FileStream C) StreamReader D) None

22. What exception occurs when writing to a read-only file?

A) InvalidFileException B) UnauthorizedAccessException C) IOException D) WriteDeniedException

23. Can you read and write to a file at the same time in C#?

A) No B) Yes, with FileStream C) Only with File class D) Only in async methods

24. How to overwrite a file's content?

A) File.AppendAllText() B) File.Delete() then write C) File.WriteAllText() D) File.Continue()

25. How to read binary data from a file?

A) BinaryReader B) StreamReader C) FileTextReader D) TextParser

26. What is Path.Combine() used for?

A) Compress files B) Format file content C) Combine folder and file paths D) Append data

27. How can you check file creation time?

A) File.GetCreationTime(path) B) File.CheckTime() C) File.Info(path).Created D) path.CreatedTime()

28. How do you check if a directory exists?

A) Directory.Check() B) Directory.Exists() C) File.IsFolder() D) IO.Directory.Check()

29. How to create a new folder in C#?

A) File.CreateFolder() B) IO.NewFolder() C) Directory.CreateDirectory() D) Folder.Make()

30. What method lists all files in a directory?

A) Directory.GetFiles() B) File.ListAll() C) Directory.ReadAll() D) IO.Directory.Files()

Syntax

1. What is the correct entry point method in a C# console application?

A) init() B) Start() C) main() D) Main()

2. Which character ends a C# statement?

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A) . B) ; C) : D) ,

3. What is the correct way to write a single-line comment in C#?

A) /* comment */ B) # comment C) // comment D) -- comment

4. Which of the following correctly declares a class in C#?

A) class Car {} B) def Car() {} C) Car : class {} D) class = Car

5. What keyword is used to create an object in C#?

A) create B) new C) make D) define

6. Which type of application does not have a user interface?

A) WinForms B) Web C) Console D) Windows Service

7. What does `using System;` do?

A) Imports namespace B) Runs System class C) Defines a method D) Creates new object

8. Which keyword is used to declare a namespace?

A) package B) group C) ns D) namespace

9. Which of these is a correct way to print something?

A) print("Hi") B) echo("Hi") C) Console.WriteLine("Hi") D) cout << "Hi"

10. What does the `return` statement do?

A) Stop the class B) Exit a loop C) Return from method D) Close a file

Functions

Create a function named AddTwoNumbers that takes two integers and returns their sum.

Write a method called IsEven that returns true if a number is even.

Create a method GreetUser(string name) that prints 'Welcome, <name>!'

Define a method Max that takes two doubles and returns the greater one.

Create a recursive method to calculate factorial of a number.

Loops

Use a for loop to print numbers 1 to 10.

Use a while loop to print even numbers from 2 to 20.

Create a do-while loop that accepts password input until 'admin' is entered.

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Sum numbers from 1 to 100 using a loop.

Print names in a string array using foreach.

Arrays

Create an array {5,10,15,20} and print first and last elements.

Find the max value in an int array.

Store 3 names from user input in an array, print in reverse.

Sum all elements in array {3,6,9,12}.

Count how many odd numbers are in a user-defined array.

Exceptions

Catch format exception when parsing an int.

Handle divide-by-zero exception with try-catch.

Use try-catch to check if a file exists before reading.

Demonstrate finally block that always prints 'Finished'.

Wrap user input in try-catch to validate number entry.

Data Types

Declare and print variables: name (string), age (int), height (double).

Ask for age and print 'You are X years old'.

Calculate area of a circle using const double Pi.

Add two float numbers and print result formatted to 2 decimals.

Use var with string value and print its type.

Operators

Input two numbers, show sum, difference, product, and quotient.

Check if number is >10 and even using logical AND.

Use ternary operator to check if age >= 18 (Adult/Minor).

Increment x = 5 using ++ and print result.

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Compare two strings and check if they are equal using ==.

Access Modifiers

Create a class with private field and public Set/Get methods.

Use a public method that calls a private method inside the class.

Track method calls using static field.

Use protected method in base class and call from derived class.

Demonstrate scope of a local variable inside a method.

Input/Output

Read user name using Console.ReadLine() and greet them.

Read two numbers from user and display their sum.

Ask for favorite color and print using string interpolation.

Print two messages on the same line using Console.Write().

Read a key using Console.ReadKey() and display it.

File Handling

Create a text file and write a welcome message.

Check if a file exists and print appropriate message.

Append a line to log.txt, create if missing.

Read and print contents of notes.txt.

Read names from file and print with line numbers.

Syntax

Write Main() that prints 'Hello, C#'.

Declare and print string, int, bool variables.

Use a for loop to print numbers 1 to 5.

Check if number is positive, negative or zero using if-else.

Create class Car with Drive() method, call it from Main().