

Bootcamp - Assignment 01

Last updated by | Hashim Javed | Jul 28, 2025 at 3:15 AM EDT

C# Console Programming Assignments – Day 1

Objective:

Familiarize yourself with fundamental C# concepts including conditions, loops, arrays, strings, lists, dictionaries, and file I/O using Console Applications. Use Visual Studio to create and debug each program.

Instructions:

- Attempt questions in order of increasing difficulty.
 - Use debugging features in Visual Studio where applicable.
1. Multiplication Table Generator
Input a number and print its multiplication table up to 10 using loops.
 2. Even or Odd Checker
Ask the user for a number and tell if it's even or odd.
 3. Maximum of Three Numbers
Take 3 numbers as input and print the largest.
 4. Sum of First N Numbers
Take N as input and print sum from 1 to N.
 5. Reverse a Number
Input a number (e.g. 1234 → 4321) using loops.
 6. Factorial Calculator
Compute factorial of a given number using a loop.
 7. Leap Year Validator
Ask the user for a year and check if it's a leap year.
 8. Fibonacci Series Printer
Print first N terms of Fibonacci series.
 9. Prime Number Checker
Determine whether a number is prime.
 10. GCD Finder
Find the Greatest Common Divisor (GCD) of two numbers.
 11. Simple Calculator
Input two numbers and perform +, -, *, /, %, based on user choice using switch case.
 12. Digit Counter
Count how many digits are in a given number.
 13. Palindrome Number
Check if a number reads the same forward and backward.
 14. Sum of Digits
Input a number and calculate sum of all its digits.
 15. Armstrong Number Validator
Check whether a 3-digit number is an Armstrong number.

16. Find Max & Min in Array
Input an integer array and find the largest and smallest values.
17. Linear Search
Search a number in an array using linear search.
18. Array Sort (Ascending)
Sort and print an integer array.
19. Even/Odd Counter in Array
Count how many even and odd numbers exist in the array.
20. Sort List of Names Alphabetically
Use List<string> and Sort() to sort names.
21. Frequency Counter (Array)
Count how many times each number appears using a dictionary.
22. Matrix Addition
Input two matrices and print their sum.
23. Vowel Counter in String
Count the number of vowels in a user-entered sentence.
24. String Palindrome
Check if a string is a palindrome.
25. Reverse Words in a Sentence
Reverse only words, not letters. E.g., 'Hello World' → 'World Hello'.
26. Remove Duplicates from Array
Return a list of unique values using HashSet.
27. Student Marks Manager
Add/search/update marks using Dictionary<string, int>.
28. Patient Visit Console App
Add, search, update, and delete patient visits using a list of objects.
29. Word Frequency Counter
Input a paragraph and print how many times each word appears.
30. Random Password Generator
Input desired length and generate an alphanumeric password.