Jaipur Engineers
Your One-Stop IT & Staffing Ecosystem

PROGRAMMING

C# Programming

C# • .NET • LINQ • Unit testing



COURSE FEE

₹7,500

JAIPUR, RAJASTHAN

+91 70146 92039

C# Programming

Syllabus at a glance

01

C# & .NET

02

Collections

03

Object-oriented C#

04

LINQ

05

Data and errors

06

Testing and debugging

PORTFOLIO PROJECT

Book Lending Console

Create a .NET console app that records loans, applies rules and reloads saved records.

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Core concepts

01

C# & .NET

Set up the .NET SDK. Use values, operators, conditions, loops and methods.

02

Collections

Work with strings, arrays, lists, dictionaries and generic types.

03

Object-oriented C#

Model a domain using classes, properties, constructors, interfaces and inheritance.

TOOLS & TOPICS

C# • .NET • LINQ • Unit testing

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Applied skills

04

LINQ

Filter, group, order and project records, then inspect results on sample data.

05

Data and errors

Handle exceptions, read and write JSON, and explore tasks and async/await.

06

Testing and debugging

Use breakpoints, isolate failures, structure a project and test key business rules.

TOOLS & TOPICS

C# • .NET • LINQ • Unit testing

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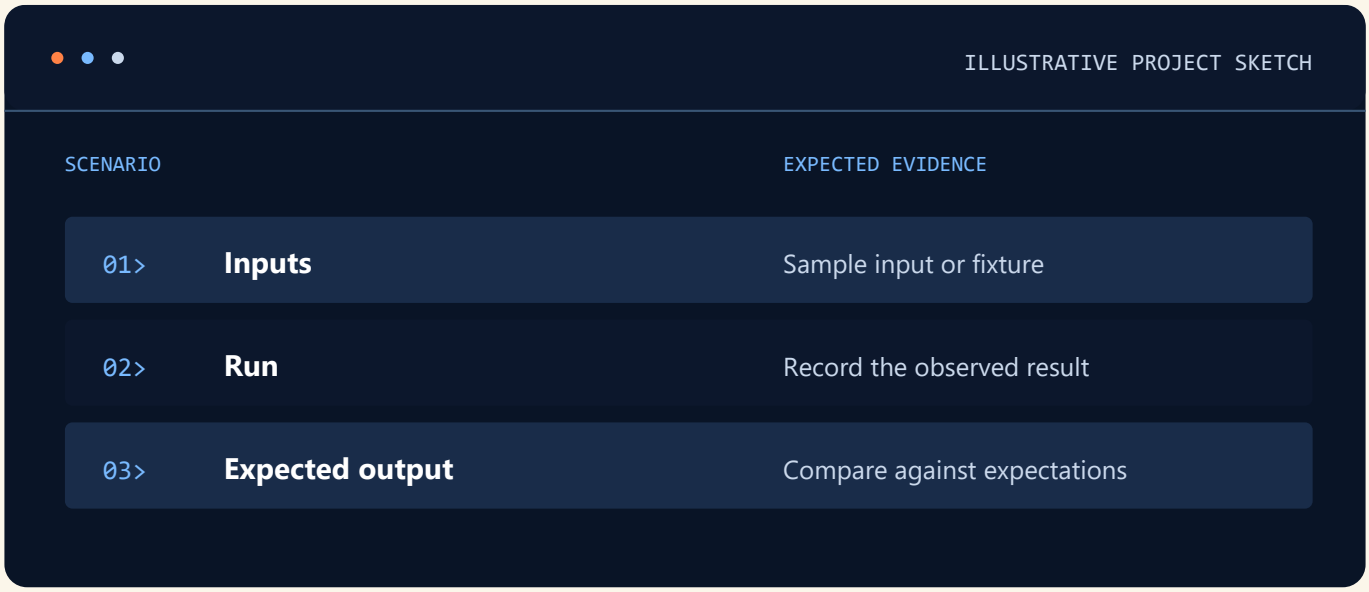
Portfolio project

Book Lending Console

Create a .NET console app that records loans, applies rules and reloads saved records.



Define inputs

Write a normal case, an empty case and an invalid case before coding.

Verify output

Run each case and record the expected and actual results.

Source code, sample inputs, expected outputs and a short run guide.

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Project checklist

Use these checks to prepare your project demo or portfolio handoff.

01

Model a loan

Assign each book an ID and document how the application tracks availability.

02

Test rejected actions

Cover duplicate IDs, invalid returns and missing input.

03

Verify persistence

Restart the console app and confirm that saved records reload correctly.

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Course fees

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₹7,500

Contact admissions for current batches, class timings and enrolment details.

JAIPUR ENGINEERS ADMISSIONS

+91 70146 92039

info@jaipurengineers.com

122/228, Indra Path, Thadi Market

Mansarovar, Jaipur, Rajasthan 302020

SCAN FOR MAP

View course details online

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Course content

MODULES 01–02

01 C# & .NET

Lessons & practice

- .NET SDK and console projects
- Types and nullable values
- Conditions, loops and methods

HANDS-ON Build a console menu that rejects an invalid option and returns to the prompt.

02 Collections

Lessons & practice

- Strings and arrays
- Lists and dictionaries
- Generics and lookup

HANDS-ON Index a book catalogue by ID and handle a missing record.

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MODULES 03–04

03 Object-oriented C#

Lessons & practice

- Classes and constructors
- Properties and access modifiers
- Interfaces and polymorphism

HANDS-ON Create lending rules you can test separately from console input.

04 LINQ

Lessons & practice

- LINQ filtering and projection
- Ordering and grouping
- Aggregation and enumeration

HANDS-ON Report loans by book category and verify counts against sample records.

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MODULES 05–06

05 Data and errors

Lessons & practice

- Exceptions
- JSON serialisation and file I/O
- Task and async/await

HANDS-ON Save and reload lending data and show a useful error for corrupted input.

06 Testing and debugging

Lessons & practice

- Breakpoints and stepping
- Unit-test cases and assertions
- Project layout

HANDS-ON Test a duplicate checkout, an invalid return and a successful loan.