

Team Name

200 NOT OK

Team Details

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Problem Statement

In today's fast-evolving tech landscape, aspiring programmers struggle with fragmented learning resources, lack of personalized guidance, and limited real-time feedback. Traditional coding platforms often provide direct solutions rather than fostering deep problem-solving skills, leaving learners dependent rather than independent.



Proposed Solution

Instructo revolutionizes coding education by using an AI mentor to guide learners through problem-solving, rather than providing direct answers. This approach fosters independent thinking and prepares users for real-world industry challenges through personalized, project-based learning.

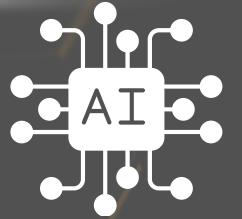
- AI-guided problem-solving eliminates answer-based learning.
- Personalized learning paths and project-based modules allow self-paced progression.
- Gamified tracking and community collaboration enhance engagement and motivation.

The screenshot shows the homepage of the Instructo website. At the top, there is a large, stylized logo featuring a red and white panda head with a small blue tail, surrounded by yellow stars and sparkles. To the right of the logo is the word "instructo" in a bold, lowercase sans-serif font, with the letter "i" being red and the rest being dark blue. Below the logo is a dark purple header bar with the text "Code Editor" on the left, the Instructo logo in the center, and a "Sign Up" button on the right. The main content area has a dark purple background with a subtle hexagonal grid pattern. It features a large version of the red and white panda logo. Below the logo, the text "AI Powered Coding Tutor" is displayed in a large, bold, light blue font. Underneath this, a smaller paragraph reads: "Instructo revolutionizes coding education by using an AI mentor to guide learners through problem solving rather than providing direct answers." At the bottom of the main section are two blue rounded rectangular buttons labeled "Get Started" and "Learn More". At the very bottom of the page, there are three cards with icons and text: "Smart AI Mentor" (rocket ship icon), "Intelligent Code Validation" (globe icon), and "Interactive Challenge Modes" (lightbulb icon). Each card has a brief description below its title.

Features

Smart AI Mentor

Our AI never provides direct code, instead, it guides users with logical explanations, enhancing problem-solving skills and reducing copy-pasting habits.



Interactive Challenge Modes

- Output-Based Coding – Write the code to match an AI given output.
- Complete the Code – Users fix and finish an incomplete code snippet.



Intelligent Code Validation

Beyond runtime, AI validates code logic, detecting and rejecting incorrect approaches such as hardcoded patterns.



Gamified Learning & Progress Tracking

Learners begin their language journey with a tailored starting point via an AI proficiency test, and continue with progress tracking and structured roadmaps throughout each course



Project-Based Learning

Master coding by building real-world project components like user authentication in any language, ensuring practical understanding with step by step guidance

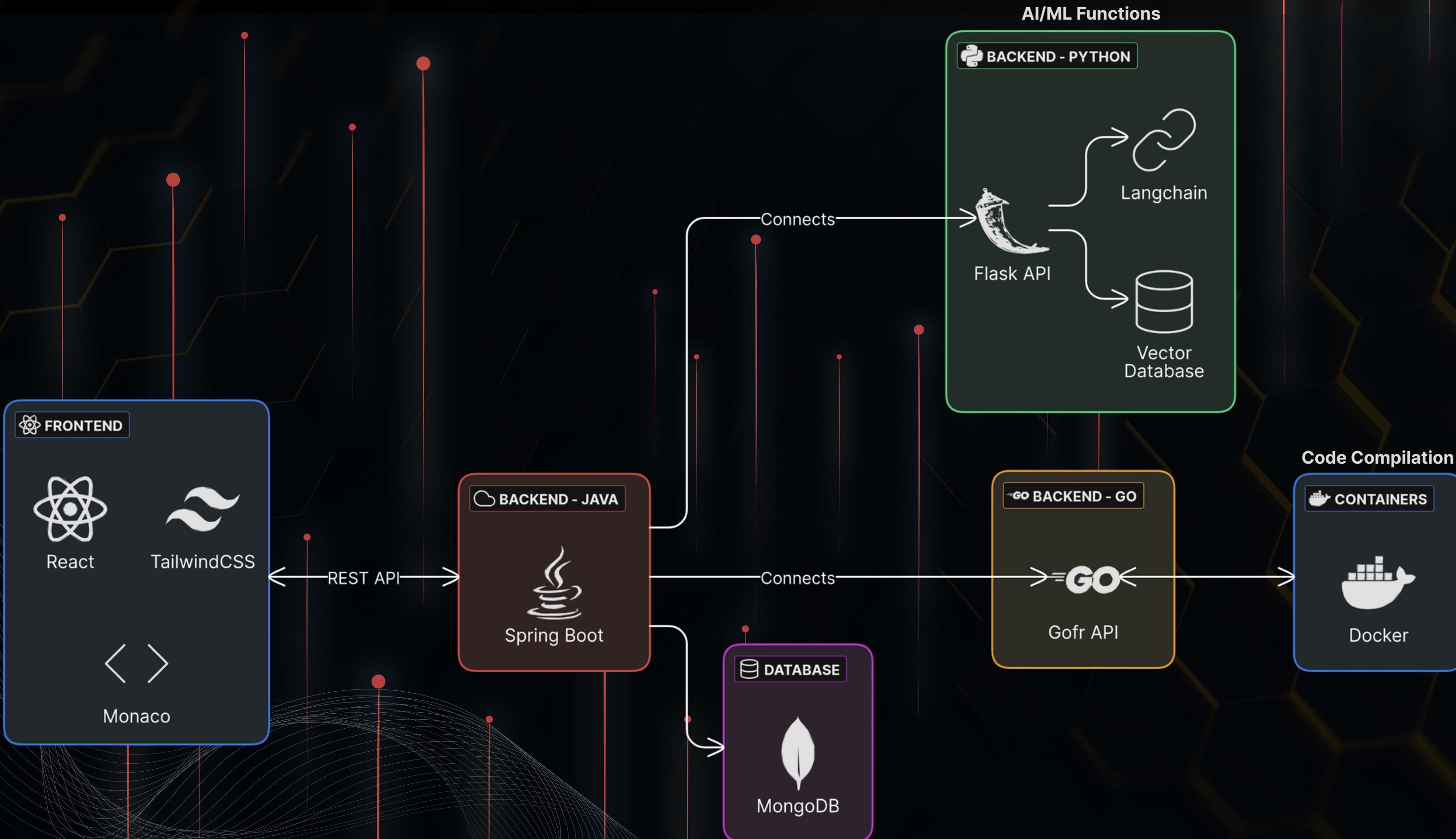


Bonus Feature: Explain Like I'm 5

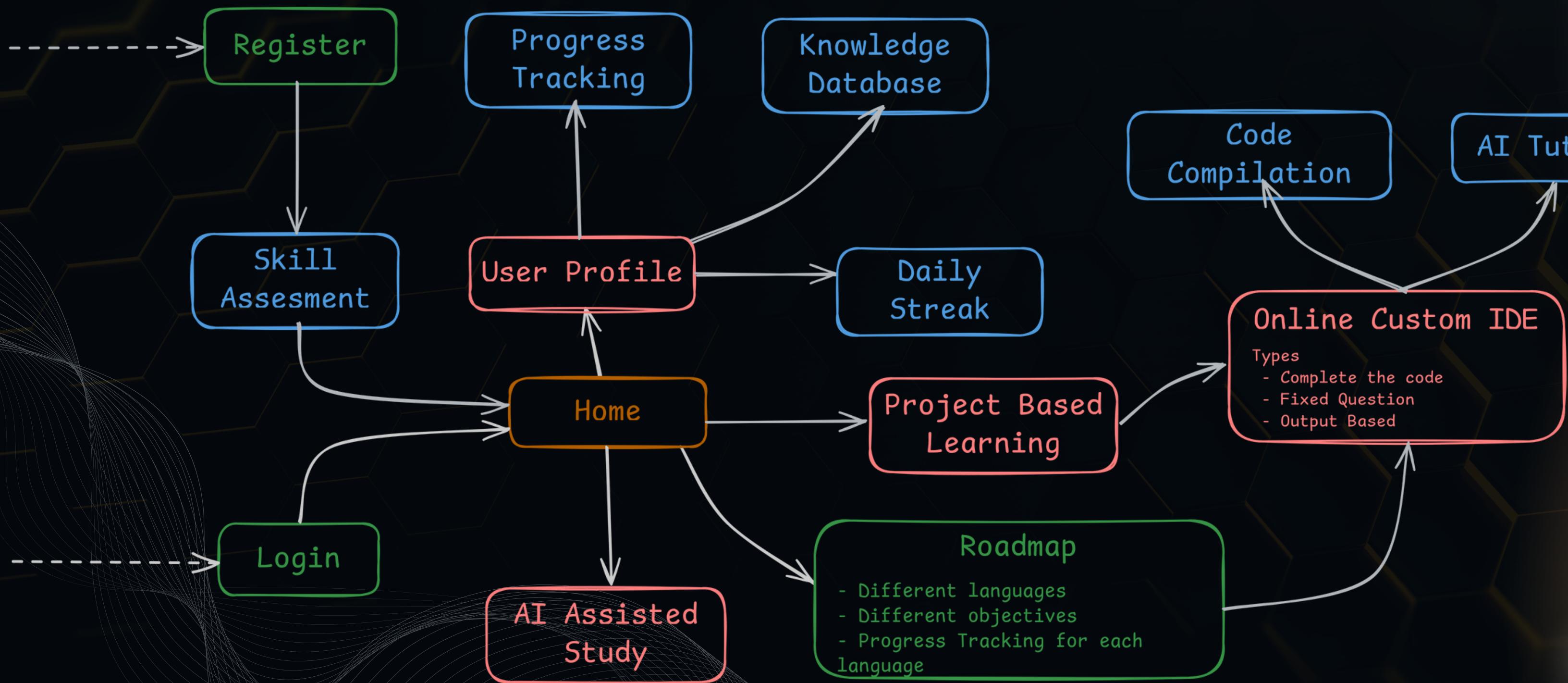
A unique mode that breaks down complex coding concepts into super simple explanations, making learning fun and effortless.



Tech Stack



Workflow Diagram



Target Audience

- › Aspiring Developers & Students
- › Self-Learners & Hobbyists
- › Universities & Coding Bootcamps
- › Tech Professionals

Engagement

- › **Interactive AI Coaching**
Offers instant, personalized feedback, acting as a patient mentor to transform coding challenges into engaging problem-solving experiences instead of frustrating obstacles.
- › **Adaptive Difficulty Scaling**
Adjusts challenges automatically to keep you in the optimal learning zone, avoiding boredom and overwhelm.
- › **Project-Based Learning**
Involves creating personalized projects with achievable steps and milestones, fostering a continuous sense of accomplishment and momentum.
- › **Gamified Learning Experience**
Earn XP, unlock achievements, and climb skill levels, transforming coding practice into an exciting personal challenge.

Future Scope



Certification Programs

Develop industry-recognized certifications based on project completion and skill mastery, providing tangible credentials for job seekers.

Mobile Learning Experience

Extend the platform to mobile devices with a specialized app that enables on-the-go learning through bite-sized coding challenges and progress tracking.



Collaborative Coding Environment

Create real-time pair programming capabilities where users can collaborate on projects together, simulating team development environments.



Enterprise Learning Management

Expand to corporate environments with team progress tracking, skill gap analysis, and customized learning paths aligned with specific organizational technology stacks.

Home Page

Code Editor

 instructo



AI Powered Coding Tutor

Instructo revolutionizes coding education by using an AI mentor to guide learners through problem solving rather than providing direct answers

[Get Started](#) [Learn More](#)

 **Smart AI Mentor**
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 **Interactive Challenge Modes**
Output-Based Coding – Write the code to match an

Sign Up/ Sign In

← Home



Create new account

Username
Enter your username

Email
Enter email address

Password
Enter your password
Minimum 8 characters

CREATE ACCOUNT

Already have an account? [Sign in](#)

• Terms of Use | Privacy policy

← Home



Sign in to account

Username
Enter your username

Password
Enter your password

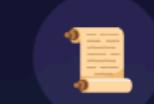
SIGN IN

Don't have an account? [Sign up](#)

• Terms of Use | Privacy policy

Language Selection

Select Your Programming Language



JavaScript



TypeScript



Python



Java



C++



C



GO



Rust



Java

Beginner

Intermediate

Advanced

Take Quiz

Quiz Page

Python Quiz

Question 1

What is the output of `print(2 + '2')`?

- 4
- 22
- TypeError
- None

Question 2

Which of the following is NOT a valid data type in Python?

- int
- float
- string

Question 4

What is the output of `print(5 // 2)`?

- 2.5
- 2 ✗ Incorrect
- 2.0
- 3

Explanation: In Python, lists (and other sequences) are zero-indexed, meaning the first element is at index 0.

Question 5

Which keyword is used to define a function in Python?

- function
- def ✓ Correct
- func
- define

Roadmaps

Your python Learning Roadmap

Follow this step-by-step roadmap to master python. Click on any step to view details and resources.

Variables & Data Types

Control Structures

Functions & Methods

Data Structures

Object-Oriented Programming

Advanced Concepts

Variables & Data Types

Completed • Step 1 of 6

Practice

Objective

Foundation of Programming

Description

Learn how to declare variables and understand different data types in python.

Complete the Code

Output Based Challenge

Problem Based Challenge

Next Step

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Practice



Code Editor

```
1 let a = 10;
2 const b = 20;
3 var c = 30;
4 console.log(a);
5 console.log(b);
6 console.log(c);
```

Run Code

Objective

Practice: Variables & Data Types - Foundation of Programming

Description

Learn how to declare variables and understand different data types in javascript. This is a free practice session. You can code anything related to the objective above.

Potential Improvements

- Add comments explaining the purpose of the code.
- Use more descriptive variable names.
- Consider using `const` for all variables that don't need reassignment.

Detailed Review

Structure/Organization

Observations:

- The code is very simple and lacks context. It's difficult to understand its purpose without more information.
- There's no apparent structure or organization beyond simple variable declarations and console logs.

Suggestions:

- Add a comment at the beginning of the file explaining what the code is supposed to do.
- If this is part of a larger program, consider encapsulating this code within a function or module to improve organization.

Output

```
10
20
30
```

Ask about your code... Send

Output Based Code



Code Editor

```
1 // Start coding here
```

Run Code

Output Based Challenge

Write code that produces exactly the expected output.

Expected Output:

```
Variable 'result' is of type: <class 'str'>
Variable 'number' is of type: <class 'int'>
Variable 'decimal' is of type: <class 'float'>
Variable 'is_true' is of type: <class 'bool'>
The final result is: Python3.14True42
```

Ask a question about your code.

Select code to get specific help.

Run your code to get output and a code review.

Ask about your code...

Send

Complete the code



Code Editor

```
1 # Variable declaration and data types
2
3 # Integer
4 age = _____
5 print("Age:", age)
6
7 # Float
8 price = _____
9 print("Price:", price)
10
11 # String
12 name = _____
13 print("Name:", name)
14
15 # Boolean
16 is_student = _____
17 print("Is student:", is_student)
18
19 # Demonstrating type conversion
20 # Convert age to float
21 age_float = _____(age)
22 print("Age as float:", age_float)
23
24 # String concatenation
25 message = "Hello, " + name + "! You are " + _____(age) + " years old."
```

Run Code

Output

```
Age: 25 <class 'int'>
Height: 5.9 <class 'float'>
Name: Alice <class 'str'>
Is student: True <class 'bool'>
Numbers: [1, 2, 3, 4, 5] <class 'list'>
Coordinates: (10, 20) <class 'tuple'>
Student: {'name': 'Bob', 'age': 20, 'major': 'Computer Science'} <class 'dict'>
Height as integer: 5 <class 'int'>
Hello, my name is Alice and I am 25 years old.
Hello my name is Alice and I am 25 years old.
```

Code Completion Challenge

Your task is to complete the code by filling in the missing parts.

Observations: • Variable names are generally acceptable but could be more descriptive in some cases. • The code demonstrates basic data types and type conversion, which is good for beginners. • Using f-strings is a good practice for modern Python development.

Suggestions: • For variables like `height`, consider `height_in_meters` for clarity. • When demonstrating data types, also include examples of immutability (e.g., try modifying a tuple). • Always include error handling when dealing with user inputs or external data sources to avoid unexpected crashes.

Learning Resources

- Python Data Types • String Formatting in Python • Python Lists

10:19:25 am

Ask about your code... Send

Complete the code



Code Editor

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10:19:25 am

Ask about your code... Send

Problem Based Challenge



Code Editor

```
1 // Start coding here
```

Run Code

Problem Solving Challenge

Problem Statement:

You are tasked with creating a program to manage inventory for a small bookstore. The bookstore sells books, magazines, and CDs. Your program should be able to store information about each item, calculate the total value of the inventory, and provide a summary of the items in stock. Specifically, you need to:

- **Store Information:**** For each item type (book, magazine, CD), store the following information using appropriate data types:
 - Book:** Title (string), Author (string), Price (float), Quantity (integer), ISBN (string)
 - Magazine:** Title (string), Publisher (string), Price (float), Quantity (integer), Issue Number (integer)
 - CD:** Title (string), Artist (string), Price (float), Quantity (integer), Number of Tracks (integer)
- **Calculate Total Value:**** Calculate the total value of each item type (price * quantity) and the total value of the entire inventory (sum of all item type values).
- **Inventory Summary:**** Create a string that summarizes the inventory. The summary should include the total number of books, magazines, and CDs in stock, as well as the total value of the inventory, formatted to two decimal places. The format should be: "Books: [book_count], Magazines: [magazine_count], CDs: [cd_count], Total Value: \$[total_value]"

Input:

- book_title** (string): Title of the book
- book_author** (string): Author of the book
- book_price** (float): Price of the book
- book_quantity** (integer): Quantity of books in stock
- book_isbn** (string): ISBN of the book

Ask a question about your code.

Select code to get specific help.

Run your code to get output and a code review.

Ask about your code... **Send**