TECHNICAL TEST: Best Coding Language For Different Purposes

1. Web Design Languages

   Web design languages are used to make websites and control how they look or work. Learning them helps us make websites that are easy to use and nice to look at.

   - HTML (Hyper Text Markup Language)

     -Builds the structure of a webpage
     -Adds headings, paragraphs, images, links, and lists
     -Example: Every websites look professional and attractive

   - CSS (Cascading Style Sheets)

     -Controls colours, fonts, spacing, and layouts
     -Makes websites look professional and attractive
     -Example: Changing the background colour, font style, or spacing uses CSS

   - JavaScript

     -Makes websites interactive
     -Adds buttons, pop-ups, forms, animations, and slideshows
     -Example: When you click “like” on Instagram or YouTube, that’s JavaScript

   - TypeScript

     -A stronger version of JavaScript
     -Reduces mistakes when writing big projects
     -Example: Used in large websites and apps like online shopping sites

Personal touch: “Sometimes I try to make my own website using HTML and CSS, and it feels cool to see it come alive with JavaScript.”

2. App Design Languages

   Apps for phones and tablets need special languages to work properly on different devices

   - Java
     -Main language for Android apps
     -Reliable and works on almost all Android phones
     -Example: WhatsApp uses Java for Android

   - Kotlin
     -Newer Android language
     -Easier and cleaner than Java
     -Example: Many modern apps now use Kotlin for smoother performance

   - Swift
     -Main language for iPhone and iPad apps
     -Fast and secure
     -Example: Snapchat uses Swift for iPhone

   - Dart (with Flutter)
     -Can make apps for both Android and iOS with one code
     -Example: Many new apps use Flutter to save time

   - React Native (JavaScript)
     -Also builds apps for both Android and iOS
     -Example: Instagram and Facebook use React Native

Personal touch: “I like the idea of making my own app. I think starting with Flutter could be fun because one code works for both phones.”

3. Text Formatting Languages

   These languages are for formatting documents, school notes, or websites.

   - Markdown
     -Simple symbols like # for headings and ** for bold
     -Example: Many learners use it to write school notes or guides

- LaTeX
  -professional tool for maths, science projects or research papers
  -Example: Used in schools for science projects or maths formulars
- HTML
  -Can format text on website and works with CSS
  -Example: Changing paragraphs styles or headings on a webpage

4. Database Languages

   Databases store information like user details, messages, or products.

   - SQL (Structured Query Language)
     -Main language for managing databases
     -Example: banks use SQL to keep records of accounts

   - Python
     -Works well with large amounts of data
     -Example: Google Maps uses Python to manage locations

   - PHP
     -Connects websites to databases
     -Example: WhatsApp uses JavaScript for live chats

5. Platforms for Coding Languages

   Different platforms help developers build websites, apps, and databases:

   - Web Frontend Platforms: React, Vue.js, Angular
   - Backend Platforms: Flutter, Android Studio, Xcode
   - App Platforms: MySQL, PostgreSQL, MongoDB, Firebase

Personal touch: “I think learning a platform like Flutter would help me make a project faster and easier.”

6. Why These Languages Matter

   Each language has a reason to exist:

   - HTML and CSS – build and style websites

- JavaScript – Makes websites interactive
- Kotlin and Swift – Make apps work smoothly on phones
- SQL and Python – store and manage data
- Markdown – Write documents quickly

7. Advantages of Each Category

   Web Design:

   - HTML – Easy to learn
   - CSS – Makes websites attractive
   - JavaScript – Works in all browsers
   - TypeScript – Reduces mistakes

   App Design:
   - Java/Kotlin – secure for Android
   - Swift – Fast and reliable for iPhone
   - Dart – One code works for both Android and iOS

   Text formatting:
   - Markdown – Fast and simple
   - LaTeX – Professional for academic work

   Databases:

   - SQL – Best for structured tables
   - Python – Great for analyzing data
   - JavaScript – Good for live apps

8. Real-Life Examples

   - Websites: YouTube (HTML, CSS, JavaScript), Instagram (JavaScript, React, Python)
   - Apps: Instagram (React Native + Python), TikTok (Swift + Kotlin + C++)
   - Text Formatting: School notes (Markdown), Research papers (LaTeX)
   - Databases: Banks (SQL), Google Maps (Python + SQL), WhatsApp (NoSQL + JavaScript)

9. Skills You Gain

Web Design: Layout, mobile-friendly websites, interactive elements
App Design: User interfaces, connecting apps to servers, testing
Database: Storing info safely, updating data, organizing data

10. Easiest Languages to Start With

- HTML and CSS – Best for beginners
- Python – Essay for general coding
- JavaScript – Easy for web interactivity
- Dart (Flutter) – Easy for building apps

11. Future Trends

- AI developers mostly use Python
- Most modern app use Kotlin and Swift
- Websites mostly use JavaScript frameworks
- Databases are moving to cloud storage like Firebase

12. What Companies Look For

- Ability to use JavaScript for web
- Ability to use SQL for data management
- Ability to use Swift/ Kotlin for mobile apps

Personal touch: “I think learning these languages could help me make cool projects and maybe even work in a tech company in the future.”