**INSTITUTE OF AERONAUTICAL ENGINEERING** 



(Autonomous) Dundigal - 500 043, Hyderabad, Telangana

# **TRAITS OF GREAT PROGRAMMERS**

## Effective assessment for the next generation of coders

With an ever-growing demand for workers with computer programming skills, how can higher education ensure, it teaches and assesses student coders effectively to prepare them for the 21st century workplace?

#### 1. Programming challenges:

**Online Coding** – Leet Code, Geeksforgeeks, Hacker Rank, Code Chef, Code Wars, Codecademy, Project Euler, Top Coder, Coder byte, Hacker Earth.

Digital Portfolio – GitHub, GitLab, Stack Overflow, LinkedIn.

## 2. Skills for working in Programming Languages:

**Software Programmer**: Java, Python, PHP, Web Developer, Mobile Application Developer, Game Developer, Machine Learning, Cyber Security, and Data Scientist.

Frontend Development: HTML, CSS, and JavaScript.

Web Framework: Node.js, Django, ExpressJS.

Database: MySQL, MongoDB.

Version Control: Git, Azure

Framework: .Net, Angular

Library: React

Methodology: DevOps

Automation Platform: ServiceNow

**CRM Platform:** Salesforce

#### 3. Hackathons:

TCS HackQuest, Lumen Quest, EY Techathon, Virtusa Jatayu Ideathon, Cognizant Bluebolt, Accenture Hack Diva, HackWithInfy, Quest Global Ingenium, L&T Techgium, Smart India Hackathon (SIH), Tata Technologies InnoVent.

#### 4. Skills:

Expert (*****)	Java, SQL, Python, Java Full Stack, C++, C#, React, JavaScript,
	Git version control
Advanced (****)	Go, Rust, Node.js, Android & iOS programming, Offensive
	security.
Familiar (***)	Ruby, Swift, Object-oriented design

#### 5. Certifications:

- Oracle Certified Java Programmer
- Python for Everybody Specialization
- C++ Certified Associate Programmer (CPA)
- Drupal 8 module development
- Advanced PHP programming
- Certified information systems security professional (CISSP)
- Offensive security exploration expert

## 6. Interview Problems:

- a. Data Structures. GeeksForGeeks.
- b. Algorithms. GeeksForGeeks, Hackerrank
- c. Coding. LeetCode, CodeChef
- d. Certification. Coursera
- e. Programming Problems. TechieDelight.
- f. Proving Correctness and Analyzing Complexity: Minko Markov.
- 7. Build Projects At least 5 projects