Welcome to Computer Science

Welcome to the first semester of Computer Science! Get ready to step into one of the most dynamic and exciting fields in science and technology.

by Saifullah Haidari

Road Map for Today

01

Introduction of policy courses

All about the contains •

02

Introduction of computer science

03

•Departments

04

Some questions

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Computer science

Computer science is the study of computer hardware and software. Those who study computer science, consequently, can specialize in a wide range of interrelated subfields, from artificial intelligence and cryptography to computer engineering and software development.

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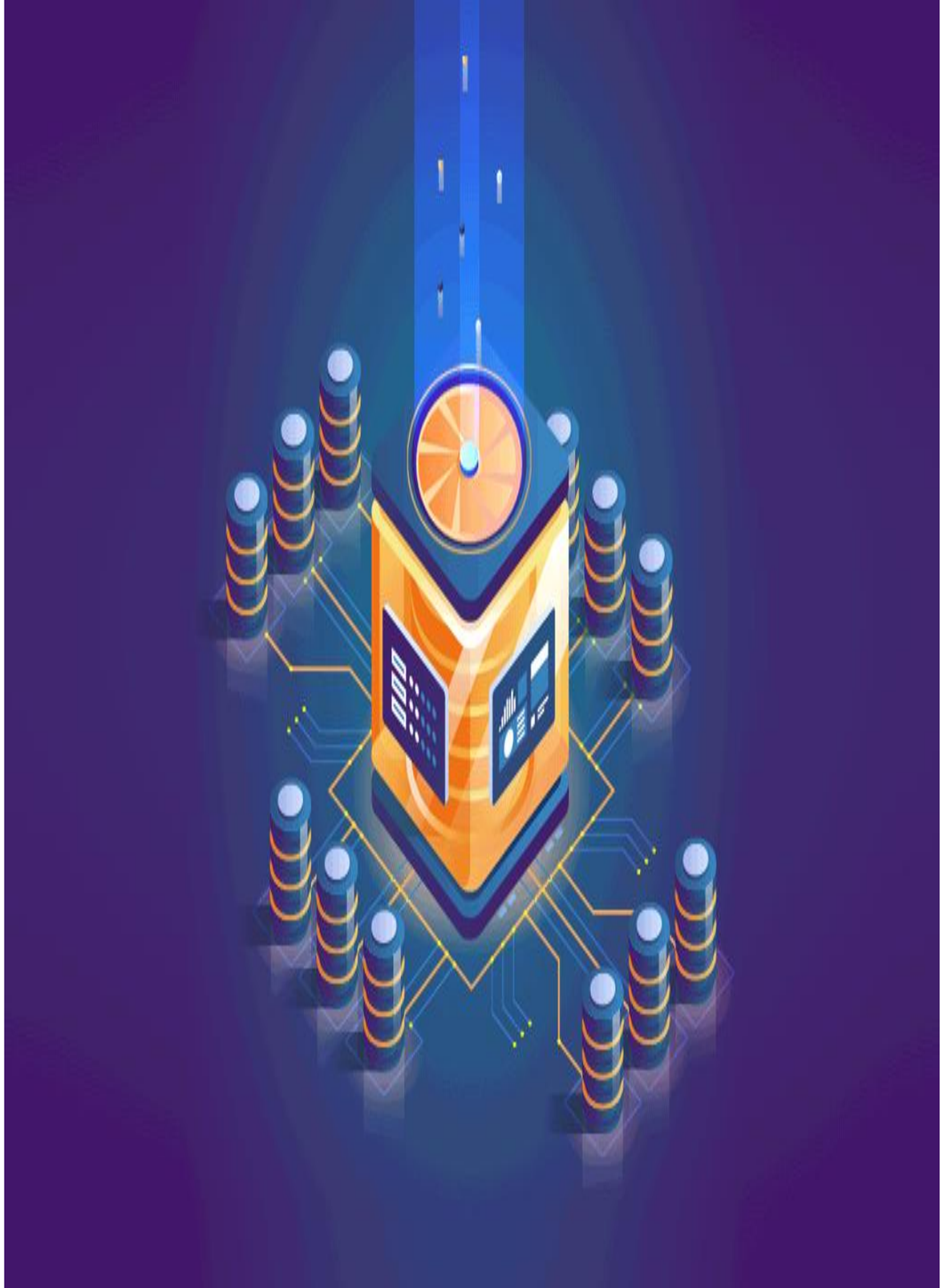

Database department

A database is a system that efficiently stores, organizes, and retrieves data.

Banking Systems

Used in banking systems to manage customer accounts and transactions.

Online Stores

Used in online stores to manage product information and customer orders.

Social Networks

Used in social networks to store user profiles and interactions.

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Software Engineering

Software engineering is the process of designing, developing, testing, and maintaining software.

1. **Requirements Gathering**

   Understanding the needs and goals of the software.

2. **Design**

   Creating the architecture and structure of the software.

3. **Development**

   Writing the code for the software.

4. **Testing**

   Ensuring the software meets the requirements and functions correctly.

5. **Deployment**

   Making the software available to users.

6. **Maintenance**

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Computer Networks

Computer networks are a collection of devices connected to each other through communication protocols.

1 Connecting Computers

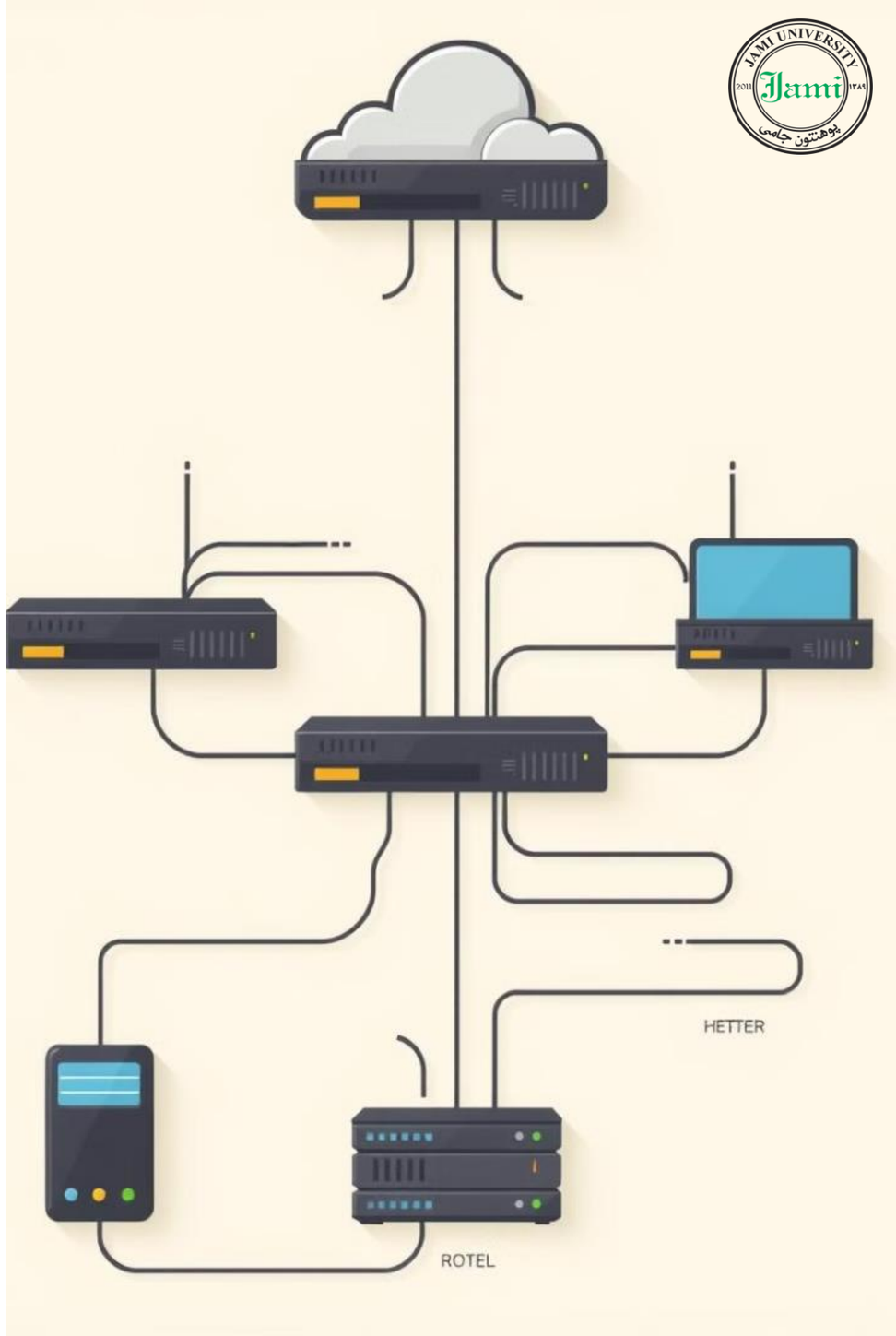
Allowing computers to share resources and communicate with each other.

2 Sharing Resources

Enabling access to shared files, printers, and other resources.

3 Internet Communication

Facilitating communication and data exchange over the internet.



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Operating Systems

An operating system is a software that manages the hardware and software resources of a computer.

Resource Management

Manages the computer's memory, CPU, storage, and other resources.

User Interface

Provides a way for users to interact with the computer.

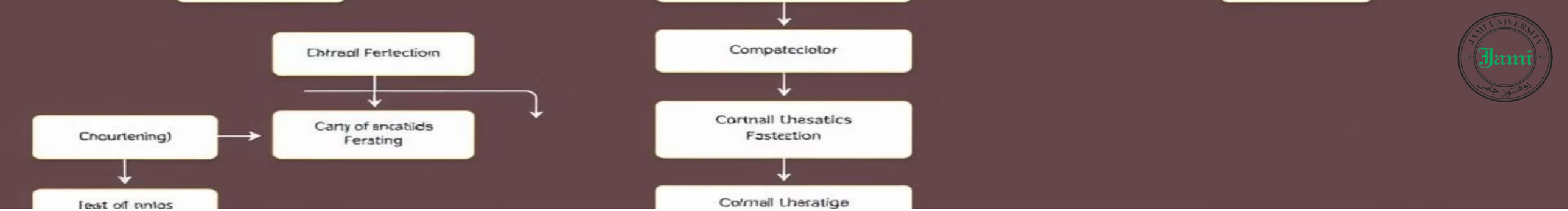
Security

Protects the computer from unauthorized access and malware.

Operating Systems

EXAMPLE OF OPERATING SYSTEM

- Microsoft Windows
- Mac Os X
- Unix Operating System
- BSD
- Plan 9
- Linux and GNU
- Google Chrome OS



Algorithms

Algorithms are a set of instructions that solve a specific problem or perform a specific task.

1 2 3

Input

The data that the algorithm receives.

Processing

The steps that the algorithm performs on the input data.

Output

The result of the algorithm's processing.

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Computer Science for Beginners

Before starting the lesson I provides 10 questions and answers for first-semester students in computer science and programming and they may useful.

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Why Learn Programming?

Problem Solving

Programming helps you develop problem-solving skills, breaking down complex tasks into smaller steps.

Creativity

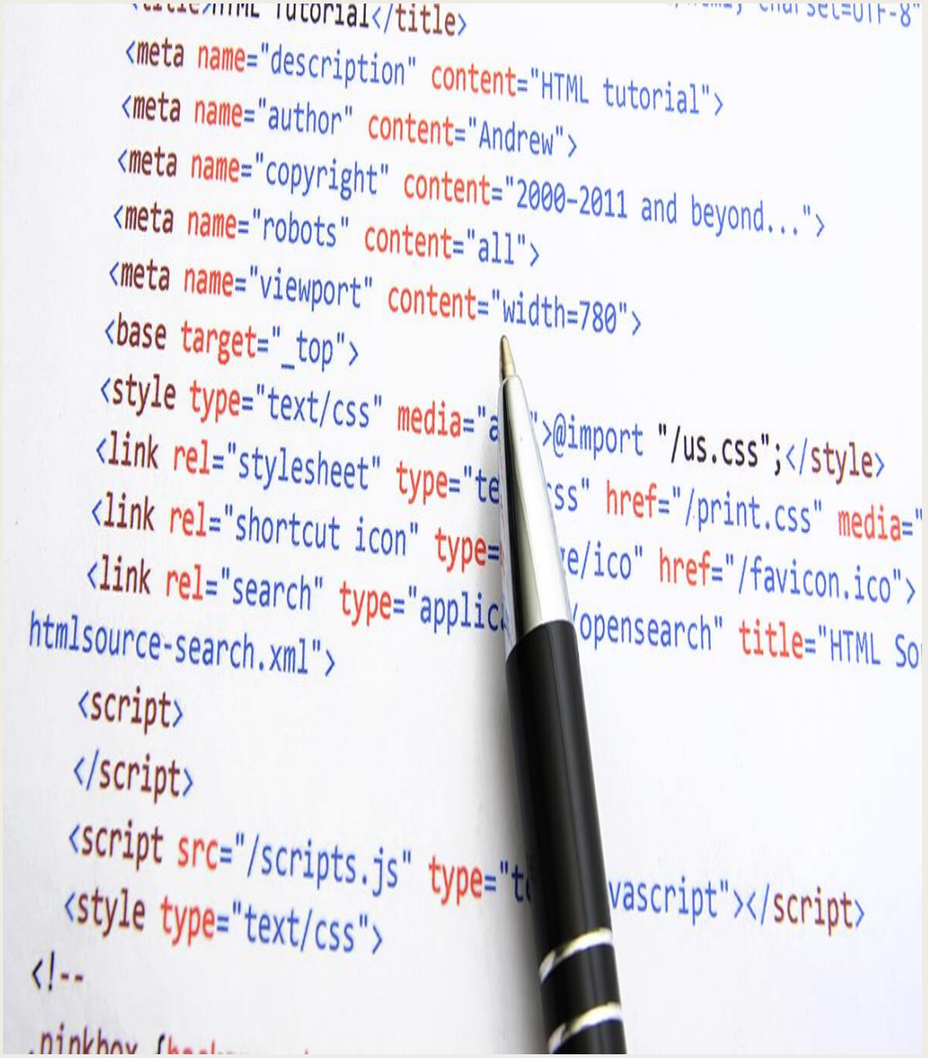
Programming allows you to express your creativity by building unique solutions and applications.

Confidence

Learning programming boosts your confidence as you master new skills and overcome challenges.

Teamwork

Programming often involves collaboration, teaching you to work effectively with others.



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How to Learn Programming

1

Start Simple with simple flowcharts

Begin with basic algorithms and flowcharts, building a solid foundation.

2

Practice Regularly

Consistent practice is key to mastering programming concepts.

3

Don't Give Up

Programming can be challenging, but persistence is essential for success.

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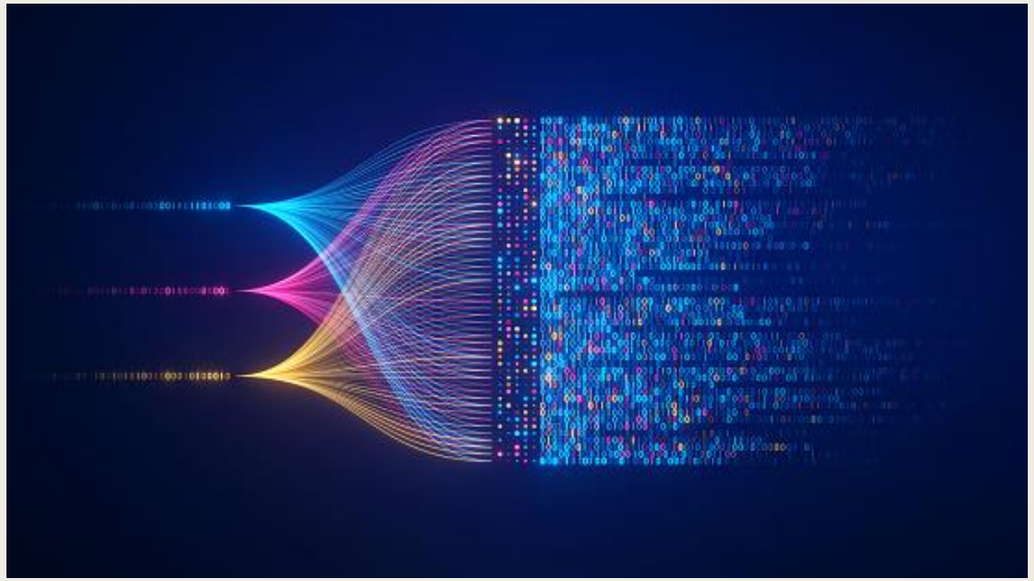
Is Programming for Everyone?



1 No, You Don't Need to Be a Genius

Hard work, dedication, and a genuine interest are more important than innate talent.

2 Start at Any Age

The earlier you start, the better, but it's never too late to learn programming.

3 Embrace Challenges

Programming involves problem-solving, so be prepared to face and overcome challenges.

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The Importance of Math

Basic Math Skills

A solid understanding of basic math concepts is helpful for programming.

Logical Thinking

Math helps develop logical thinking skills, which are essential for programming.

Problem-Solving

Math provides a framework for solving problems, which is applicable to programming.

Is it important to know different languages?

1. Versatility: Different languages are suited for different tasks. For example:
   - Python: Great for data science, machine learning, and web development.
   - Java: Common in enterprise applications and Android development.

computer properties for programming

1. Processor (CPU):
2. Memory (RAM):
3. Storage:
4. Graphics Card (GPU):
5. Operating System:
6. Portability:
7. Display

The Importance of English

1

Documentation

Most programming resources and documentation are written in English.

2

Communication

English is the primary language for communication in the tech industry.

3

Community and big companies

Engaging with the programming community often requires English proficiency.

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The Future of Programming

Growing Demand

The demand for skilled programmers continues to rise across various industries.

Career Opportunities

Programming offers a wide range of career paths with promising growth potential.

Technological Advancements and …..

Programming plays a crucial role in shaping the future of technology.

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Specialization vs. Versatility

Specialization	Versatility
Deep knowledge in one language	Familiarity with multiple languages
Strong expertise in a specific area	Adaptability to different projects

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Time to Reach Financial Success

1

Dedication

The time it takes to achieve financial success depends on your dedication and effort.

2

Skills

Developing valuable skills and gaining experience is crucial for career advancement.

3

Opportunities

Seizing opportunities and networking can accelerate your career growth.

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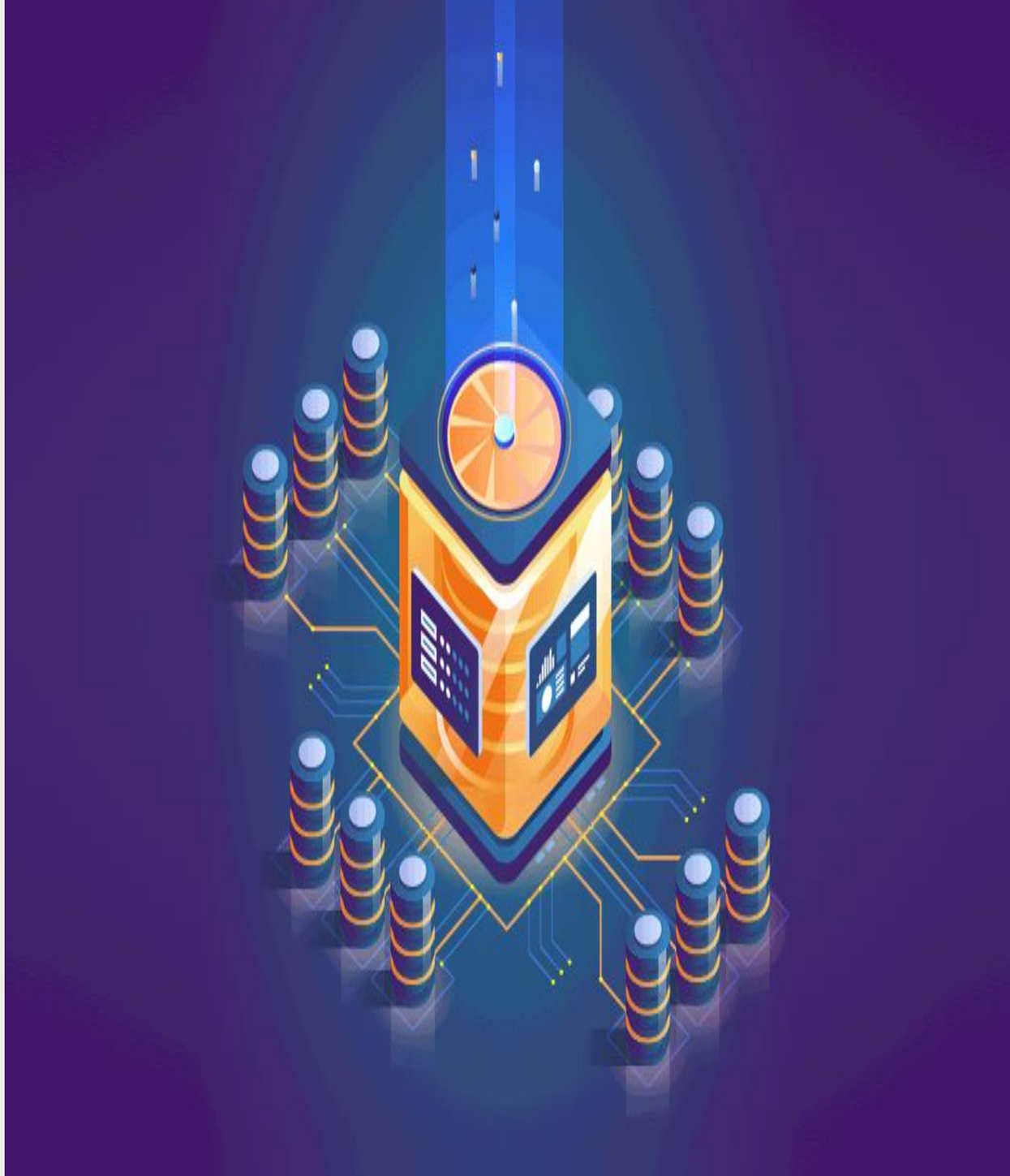
Final Thoughts

Programming is a rewarding field that offers endless possibilities. Embrace the challenges, stay curious, and never stop learning.



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As a conclusion of this lesson

What is a computer ?	Departments of computer science
Why do we need to computer ?	Operating systems
Get Started	Why do we need to programming?

Thanks!

Do you have any questions?
saifullahhaidari38@gmail.com
+93:766066673

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