WHAT IS PROGRAMMING?

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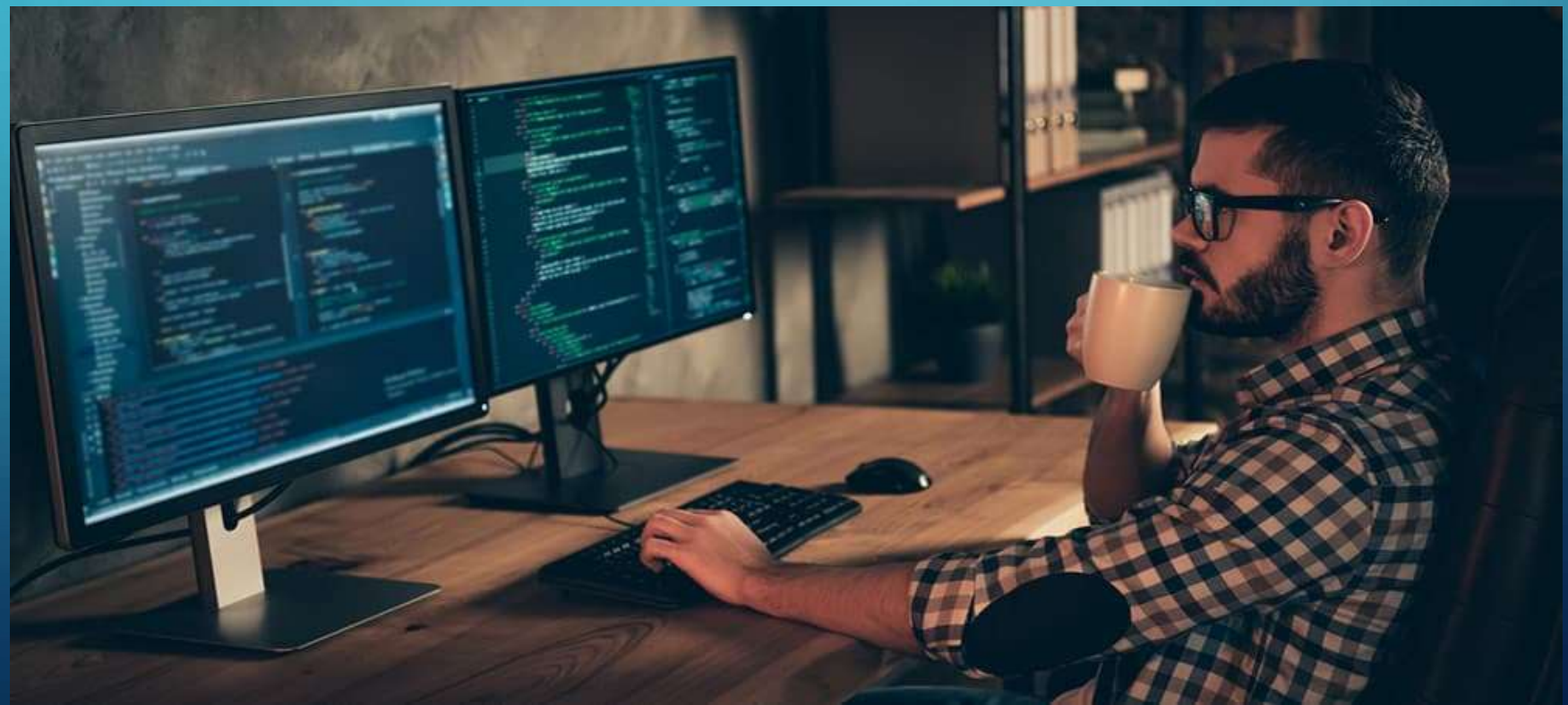
WHAT IS PROGRAMMING?

- Programing is a way to **instruct a computer to perform various tasks**



INSTRUCT THE COMPUTER

- This means that we provide the computer a set of instructions that are written in a language that the computer can understand
- The instructions can can be different types, for example:
  - Adding 2 numbers
  - Rounding off a number
- Just like we humans can understand a few languages so is the case with computers. Computers understand instructions that are written in a specific syntatical form called a programming language

PERFORM VARIOUS TASKS

- The task can be simple ones like adding 2 numbers or rounding off a number, or complex ones which may involve a sequence of multiple instructions,for example
  - Calculating simple interest, given principal, rate and time
  - Calculatng the average return on a stock over the last 5 years
- The above 2 tasks require complex calculation. They cannot usually be expressed in simple instructions like adding 2 numbers

WHY BOTHER ABOUT PROGRAMMING?

- Why do we need programming for simple things like adding 2 numbers or rounding off numbers
- What benefits do computer offer?

BENEFITS OF PROGRAMMING

- Computers are fast
  - Computers are amazingly fast. For nowdays computers, an addition of two numbers which could be as big as a billion each takes hardly a nanosecond
  - That means the computer can perform about a billion aditions in 1 second
  - Can humans do that? Average human can't even do 10 additions per second
  - So computers offer great speed

BENEFITS OF PROGRAMMING

- Computers are cheap
  - If you were a stock market analyst and you had to monitor the data of 1000 stocks so you can trade them quickly. If you had to do everything manually it would take a lot of time and it would be impractical. While you perform the calculations, the prices may change
  - Other alternative is to hire people so they can do it instead of you, but then the cost goes up, and if some of the employee makes a mistake in calculation you may end up losing money
  - Computers can process a huge amount of information quickly and reliably. 1000 stocks are nothing for the computers of 21st century

BENEFITS OF PROGRAMMING

- Computers can work 24x7
  - Computers can work 24x7 without getting tired. So, if you have a task that is big enough, you can without worries give it to the computer by programming it andsleep peacefully

WHAT IS A PROGRAMMING LANGUAGE?

- Computers understand instructions that are written in a sepcific syntatical form called a programming language
- A programming language provides a way for a programmerto express a task so that it could be understood and execute by a computer

WHY SHOULD YOU LEARN PROGRAMMING?

- Programming is fun
  - Using programming, you can create your own games, your personal blog, a social network like Facebook, a search engine like Google or an e-commerce platform like Amazon

WHY SHOULD YOU LEAR PROGRAMMING?

- The backbone of a Technology Company
  - The backbones of todays technology companies like Google, Meta, Microsoft, Apple, Amazon and many other, are giant computer programs written by a collaboration of thousands of skilled programmers
  - If you have the right business idea, knowing programming can help you create the next big tech company

WHY SHOULD YOU LEARN PROGRAMMING?

- Pretty good sallary
  - Computer programmers are paid extremely well almost all across the world
  - Top programmers in the Sillicon Valley make millions of dollars every year
  - Quite a few companies offer starting sallaries as high as $100 000 per year

ANY QUESTIONS?

THE END