

COMP102 · INTRODUCTION TO COMPUTERS

Welcome to the World of Computing

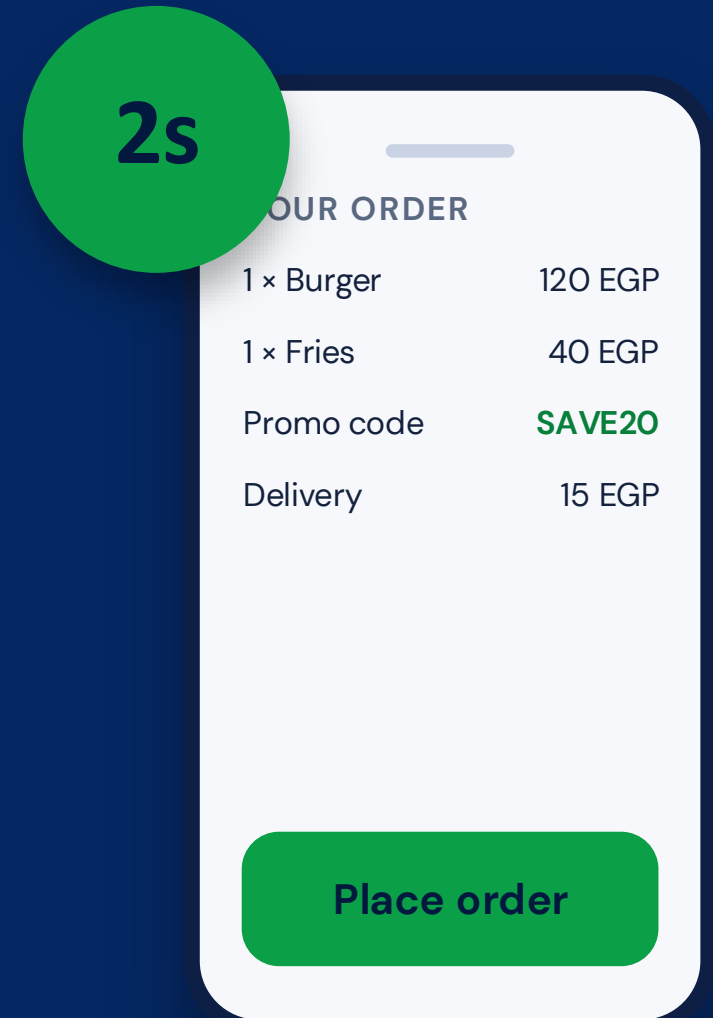


..... · Teaching Assistant
Information Systems Department, MUST

QUICK QUESTION

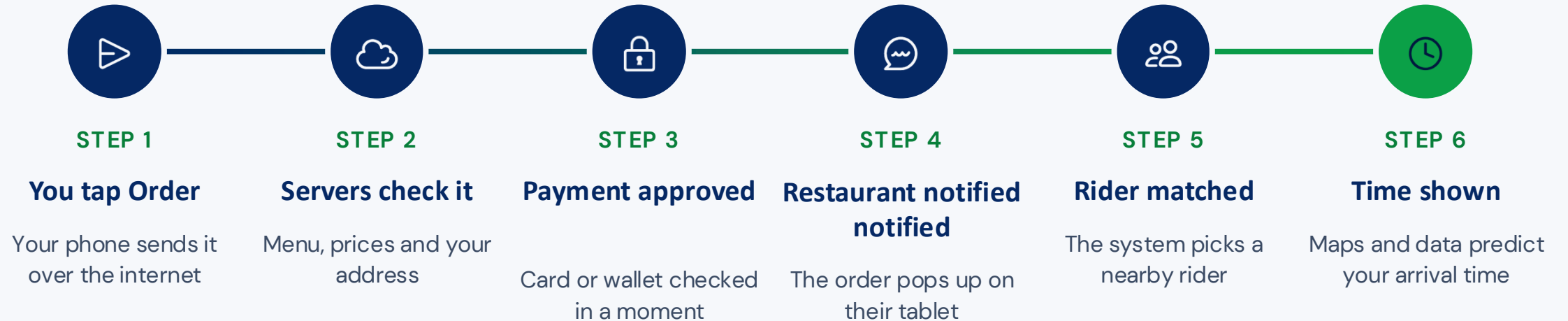
What happens in the **2 seconds** after you tap “ Order” on Talabat?

Take a guess. Shout it out!



THE ANSWER

Your order's 2-second journey



Every step = **computing** + **business**

6 systems · about 2 seconds

What is computing?



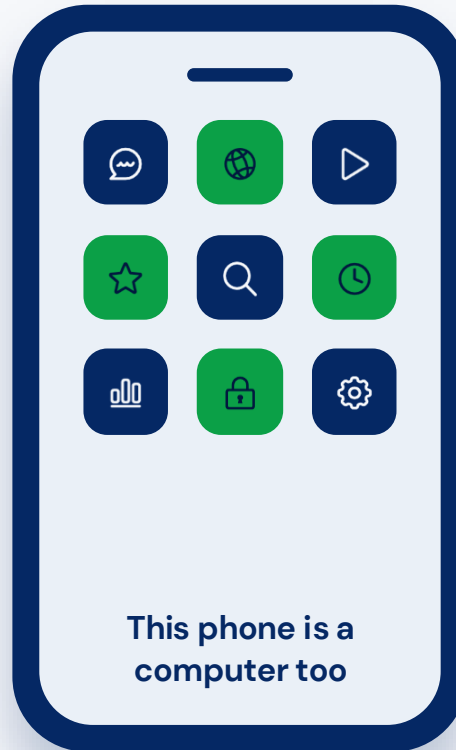
Hardware

The parts you can **touch**: screen, chip, battery



Data

Raw facts: your name, address, past orders



Software

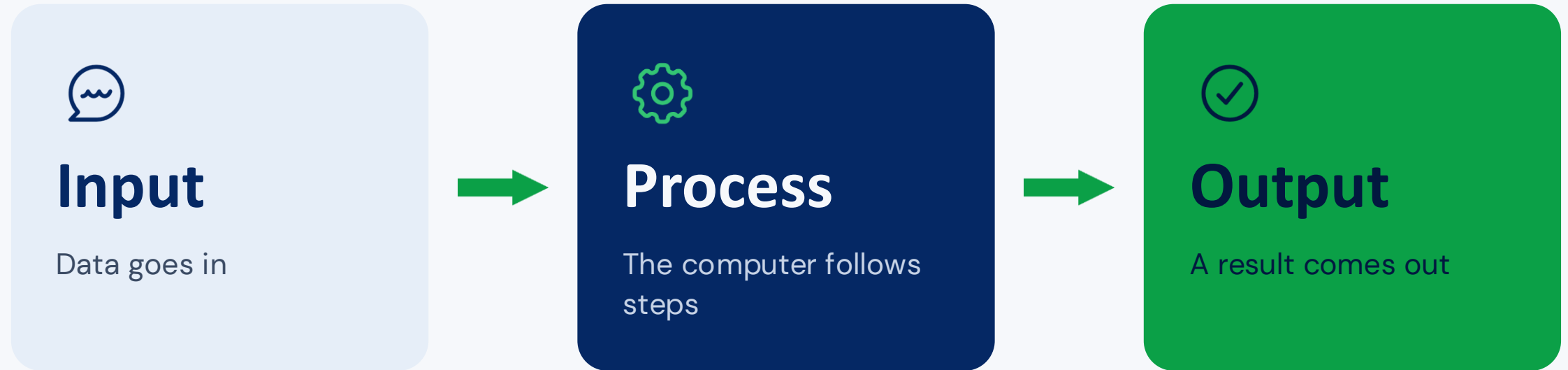
The **instructions**: apps, Android, iOS



Files

Where data is **saved**: photo.jpg, menu.pdf

Every program does three things



Like cooking: **ingredients** → **recipe** → **meal**

A TINY REAL EXAMPLE

How the app calculates your bill

INPUT

Burger 120 EGP · Fries 40 EGP · Code **SAVE20**

PROCESS

Add the prices, take 20% off, add 15 EGP delivery

OUTPUT

Total: 143 EGP

bill.py

```
prices = [120, 40]
subtotal = sum(prices) # 160
discount = subtotal * 0.20 # 32
delivery = 15
total = subtotal - discount + delivery
print(total) # 143 EGP
```

What is AI?

Computers that **learn from examples**, not only follow fixed rules

TASK: FIND THE CAT IN A PHOTO

`</>` Normal program

You write every rule: ears, whiskers, tail... and it still fails on a new photo.

VS

AI

You show it thousands of cat photos. It learns what a cat looks like.

Example: how a spam filter learns



You already use AI every day

👤 Hands up if you used it today



Instagram

Picks the next post you'll like



Google Maps

Predicts traffic and arrival time



Face unlock

Recognizes your face in a second



ChatGPT

Answers you in plain language



Bank alerts

Spots strange card payments



Food apps

"You may also like..." picks

THREE DIFFERENT WORLDS

CS vs IS vs Business



COMPUTER SCIENCE

Builds

the technology: apps, code, AI models

Asks: "How do we build it?"



Our department

INFORMATION SYSTEMS

Connects

business needs to the right technology

Asks: "What should we build, and why?"



BUSINESS

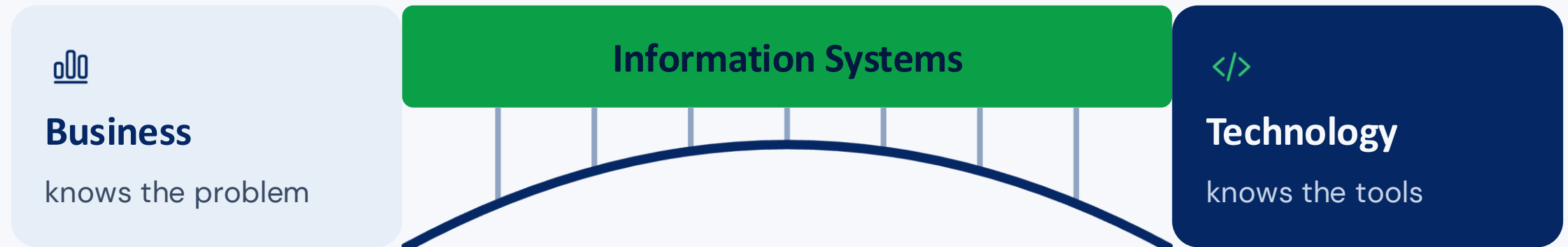
Runs

the company: sales, marketing, money

Asks: "How do we grow and earn?"

INFORMATION SYSTEMS

IS is the bridge



BACK TO TALABAT



Where IS can take you



Business Analyst

A DAY IN THE LIFE

Meets managers, finds the real problem, and writes what the new system must do.

Interviews

Process maps

Excel



Data Analyst

A DAY IN THE LIFE

Cleans company data, builds dashboards, and answers “What happened, and why?”

Excel

SQL

Power BI



ERP Consultant

A DAY IN THE LIFE

Sets up the big systems that run a company’s sales, stock and money.

SAP

Oracle

Odoo

And the newest roles



Product Manager

PRODUCT MANAGER · PRODUCT OWNER

Decides what an app should do next. Talks to users, designers and developers, then sets the priorities.

User research

Roadmaps

Data



AI-in-Business roles

AI BUSINESS ANALYST · AUTOMATION SPECIALIST

Finds tasks AI can do, tests AI tools, and trains teams to use them well.

AI tools

Automation

Data

AI is changing business jobs

86%

of employers expect AI and information processing to transform their business by 2030



Shrinking jobs

Data entry clerks · Cashiers · Bank tellers



Growing jobs

Big data specialists · FinTech engineers · AI specialists

WHY IS GRADUATES ARE NEEDED

AI needs a translator

Someone who speaks both business and technology: **an IS graduate**



Knows the business

What problem are we really solving?



Knows the data

Which data should the AI learn from?



Checks the AI

Does this answer make sense?
Is it fair?

Why IS at MUST?



What you'll study

[Key courses or tracks]



Labs and tools

[Software and labs you'll use]



Certificates

[Certifications or accreditation]



Your future

[Internships, partners, where grads work]

MINI-CHALLENGE

AI or not?

👍 Thumbs up = AI 🗨️ Thumbs down = Not AI

1 Calculator

NOT AI

2 Netflix top picks

AI

3 Face unlock

AI

4 Excel =SUM()

NOT AI

5 Microwave timer

NOT AI

6 Google Maps arrival time

AI

COMING UP IN OUR SECTIONS

What we'll learn together

PART 1

0101

Number systems

How computers store numbers, and how to convert between them

Binary

Octal

Decimal

Hexadecimal



PART 2

</>

Programming

Choose one language and write your first real programs

Python

JavaScript

Java

C++

Thirteen, written four ways

DECIMAL

Base 10 · digits 0–9

13

What humans use

BINARY

Base 2 · digits 0, 1

1101

What computers use

OCTAL

Base 8 · digits 0–7

15

Binary in groups of 3

HEXADECIMAL

Base 16 · 0–9, A–F

D

Binary in groups of 4

YOU'LL PRACTICE:

Binary → Decimal

Decimal → Binary

Binary → Octal

Binary → Hex

PART 1 · A QUICK TASTE

Binary → decimal in 10 seconds

PLACE VALUES DOUBLE EACH TIME



$$8 + 4 + 0 + 1 = 13$$

Add the place values where the bit is 1. Skip the 0s.

YOUR TURN

1010

= ?

Hint: the place values are still 8, 4, 2, 1

Four languages worth knowing

Py Python

Best for beginners

Why: reads almost like English

Used for: AI, data analysis, automation

```
print("Hello, MUST!")
```

JS JavaScript

Best for the web

Why: runs in every web browser

Used for: websites and web apps

```
console.log("Hello, MUST!");
```

Jv Java

Best for big systems

Why: stable and reliable at scale

Used for: banks, big companies, Android

```
System.out.println("Hello, MUST!");
```

C++ C++

Best for speed

Why: very fast, close to the machine

Used for: games, operating systems

```
std::cout << "Hello, MUST!";
```

SUMMARY

Three things to remember

- 1 A computer = **hardware + software + data**. Your phone is one.
- 2 AI **learns from examples**, and you already use it every day.
- 3 IS is **the bridge** between business and technology.



YOUR NEXT STEP

Think about majoring in IS

🕒 [Office hours: day · time · room]