

TX00FL42-3001

CONDITIONAL STRUCTURES

MUATH OTHMAN



LET'S CHECK HOMEWORKS!



LET'S TURN
OFF AI!



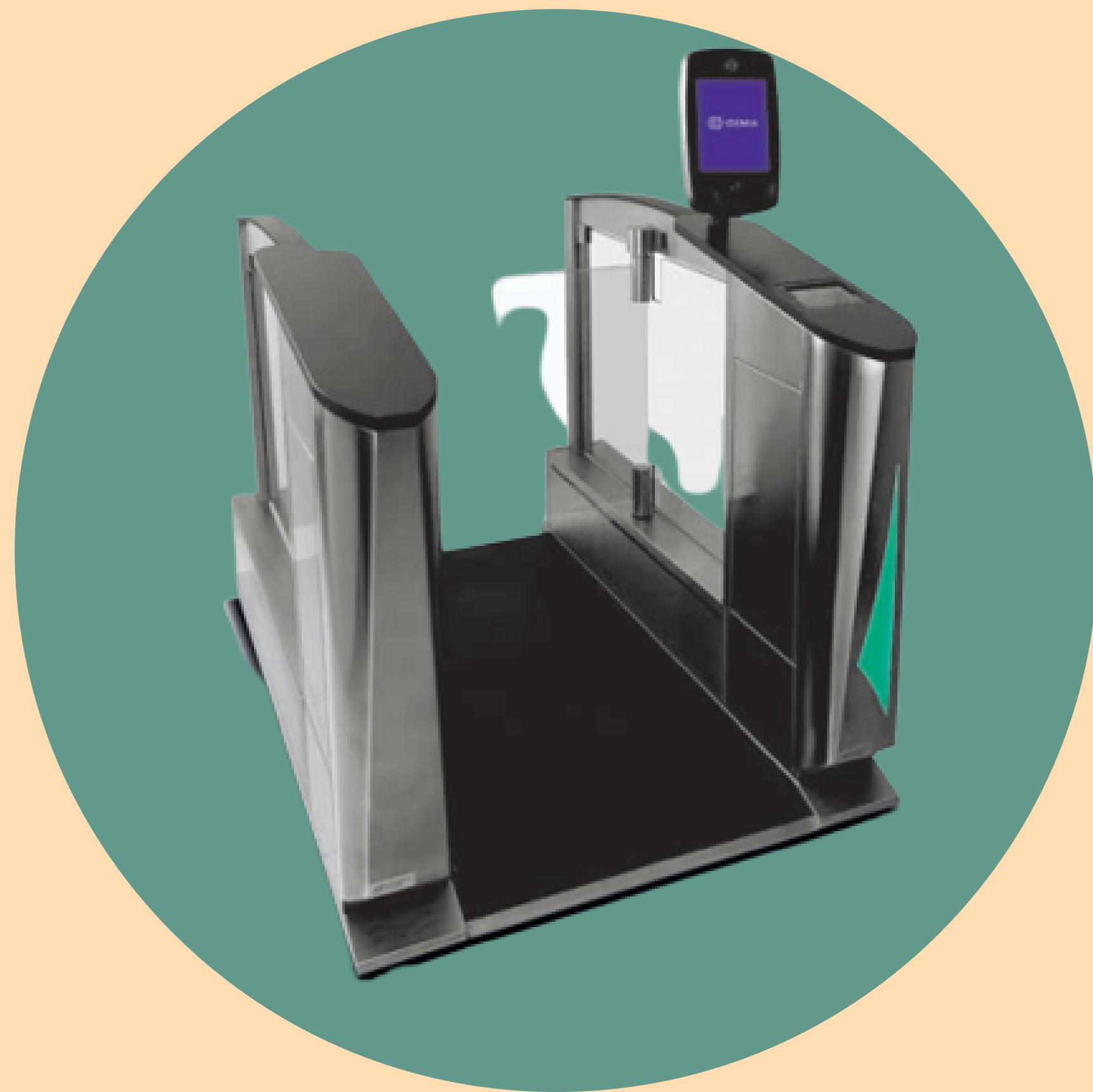
LEARNING OBJECTIVES

- Understand the Role of Conditional Statements in Program Flow
- Apply Comparison and Logical Operators
- Develop Programs that Make Decisions Based on User Input




LET'S TAKE
EXAMPLE





EXAMPLE: CAFÉ LATTE DECISION


Scenario: You want to buy a latte costing 5 euros.



```
if money_in_pocket >= 5:  
    buy latte
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THIS IS NOT CODE!!!!

**Let's create Pseudocode
from previos example**

EXAMPLE: CHECKING IF YOU CAN BUY A LATTE

```
money = float(input("Enter amount of money: "))  
if money >= 5:  
    print("You can buy a latte.")
```

PYTHON **IF** STATEMENT SYNTAX

Code inside the if block must be indented.



```
if condition:  
    # code to execute if condition is true
```

COMPARISON OPERATORS

Operators	Meaning	Example	Result
<	Less than	5<2	False
>	Greater than	5>2	True
<=	Less than or equal to	5<=2	False
>=	Greater than or equal to	5>=2	True
==	Equal to	5==2	False
!=	Not equal to	5!=2	True

STRING COMPARISON



```
cat = input("Enter cat's name: ")  
dog = input("Enter dog's name: ")  
  
if cat == dog:  
    print("Oh my! The cat and dog have the same name!")
```

The background is a solid light orange color. In the top right corner, there is a teal shape that curves downwards and to the left, and an orange shape that curves downwards and to the right. In the bottom left corner, there is a teal shape that curves upwards and to the right, and an orange shape that curves upwards and to the left.

EXERCISE

LOGICAL OPERATORS

Notation	Logical operator
and	"both"
or	"either" or "both"
not	negation, "no"

MEDICINE ELIGIBILITY



```
age = int(input("Enter age: "))  
if 15 <= age < 18:  
    weight = float(input("Enter weight (kg): "))  
if (age >= 18 or (age >= 15 and weight >= 55)):  
    print("The medicine can be used.")
```


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EXERCISE

TWO MUTUALLY EXCLUSIVE OPTIONS



```
if condition:
    # do something if true
else:
    # do something if false
```

MEDICINE ELIGIBILITY WITH ELSE



```
if (age >= 18 or age >= 15 and weight >= 55):  
    print("The medicine can be used.")  
else:  
    print("The medicine cannot be used.")
```

MULTIPLE CONDITIONS: ELIF

```
if condition1:  
    # do something  
elif condition2:  
    # do something else  
else:  
    # do something if none are true
```

EXAMPLE: DETERMINING LIFE STAGE

```
age = int(input("Enter your age: "))
if age >= 65:
    print("You are retired.")
elif age >= 18:
    print("You are working-age.")
elif age >= 7:
    print("You are in school.")
else:
    print("You are a small child.")
```

EXERCISE