Programming

Fundamentals

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SECTION 1:

Arithmetic, Logical & Relational Operators

Arithmetic Operators

Arithmetic Operators Implementation

- Basic operations
- Common pitfalls
- Temperature Convertor:

Formula: F = C * 9/5 + 32

QUICK PRACTICE:

What's the output of 25 / 3 when both are integers?

OPTIONS:

A. 8.0
B. 8.33
C. 8

Interactive Challenge 1

Challenge: Try inputting 100, 0 and -40. What patterns do you notice in Temperature Convertor?

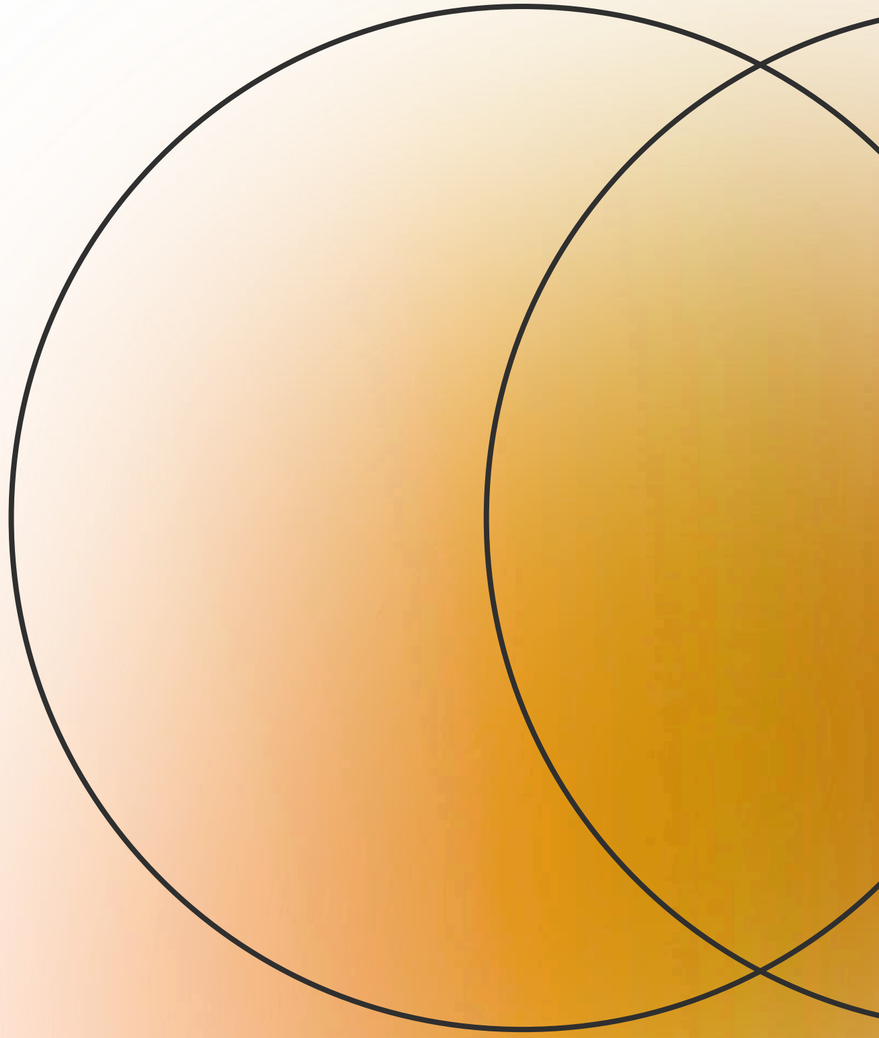
Relational & Logical Operators

Relational & Logical Operators Implementation

- Relational Operators
- Logical Operators

SECTION 2:

Conditional Statements



Simple if statements

What is Decision Making?

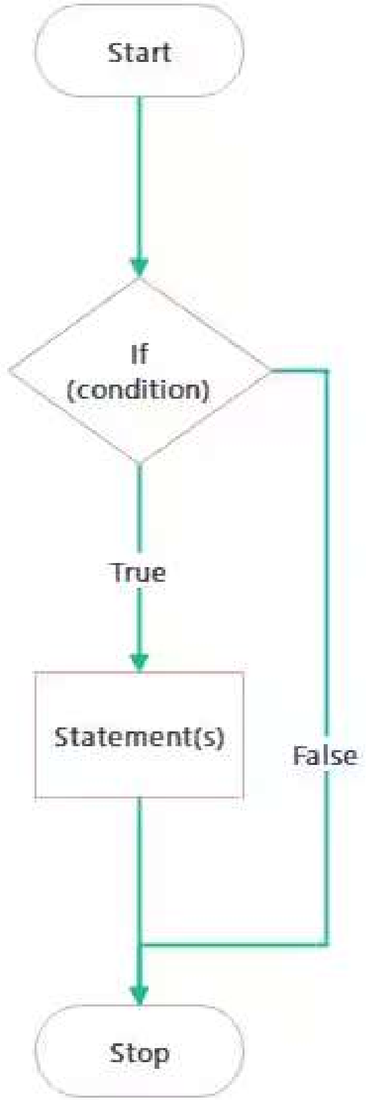
Programming is like giving instructions to a robot. Sometimes, the robot needs to make choices based on different situations.

Real-life example:

- "If it's raining, take an umbrella. Otherwise, don't take one."
- "If you have money, buy coffee. Otherwise, drink water."

In programming, we use *if-else statements* to make these decisions.

Simple if statements

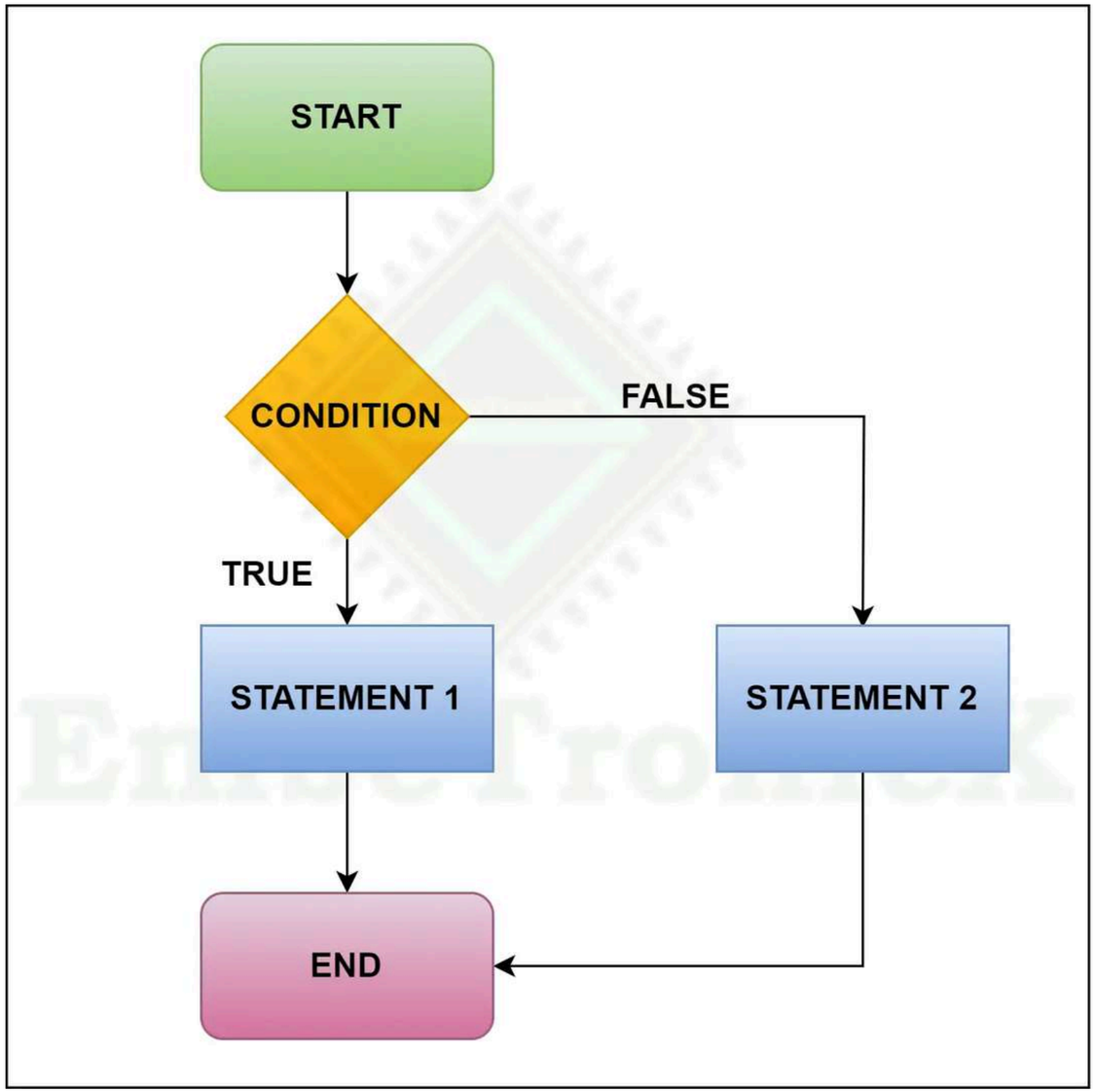


Simple if statements

Implementation

- Positive number
- Temperature Checker

if-else statements



if-else statements

Implementation

- Age Verification
- Even/ odd number
- Division Safety Checker

Hands-On Activity 1:

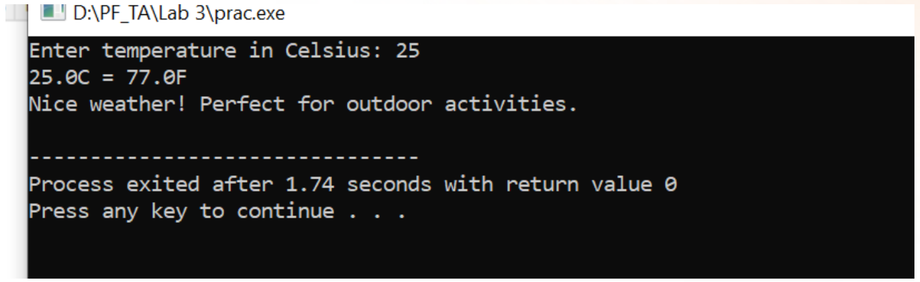
Temperature Converter with Recommendations

Real-World Problem:

Write a C program that converts temperature from Celsius to Fahrenheit and provides weather recommendations based on the temperature range.
Recommendations: Provide weather advice based on these ranges:

- 30°C and above: "It's hot! Stay hydrated and wear light clothes."
- 20°C to 29°C: "Nice weather! Perfect for outdoor activities."
- 10°C to 19°C: "Cool weather. Wear a light jacket."
- 0°C to 9°C: "Cold! Wear warm clothes."
- Below 0°C: "Freezing! Stay indoors and bundle up."

Expected Output:



Enter temperature in Celsius: 25
25.0C = 77.0F
Nice weather! Perfect for outdoor activities.

Thank You