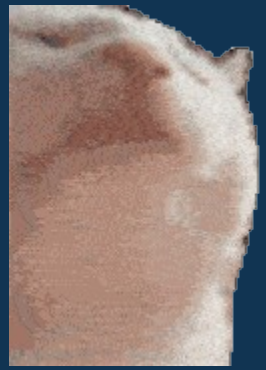
Welcome to the Topic Lecture



The session will start shortly...

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Johannesburg Team Housekeeping

- Please be mindful and respectful to everyone in this supportive learning environment. Mutual respect and tolerance are fundamental values we uphold.
- There are no bad or silly questions—feel free to ask anything! You can ask Sashlin or myself questions at any time, regardless of the situation. Even if you find yourself in a dire situation—like stuck in quicksand—you're still welcome to ask us a question (though we recommend calling or shouting first!).
- A few additional reminders for onsite behavior:
  - Keep shared spaces tidy—clean up after yourself in the break areas.
  - Please mute your devices during sessions to minimize distractions.
  - Avoid making personal phone calls in common areas—use designated quiet zones if you need to step away.
- Additionally, please remember to put any dishes in the sink before 2 p.m., as Lizbeth will have already finished for the day. If you’re feeling unwell, kindly inform Ingrid or myself via email.

Why Are Variables Important?

- Variables allow us to store and manipulate data in programs. Without them, we wouldn't be able to manage input, process calculations, or track state.
- Think of variables as labeled boxes where you can store data. You can retrieve and update these values as needed.

What Is a Variable?

- A variable is a named reference to a value stored in memory.
- Variables help programs remember things and use them later in calculations, decisions, and outputs.

Introduction to Variables

What Is a Variable in Python?

```
name = "Alice"
score = 95
is_winner = True
```

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Creating Variables

Variable Creation and Assignment

```
age = 20
temperature = 98.6
greeting = "Hello, world!"
is_active = False
```

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Naming Conventions

- Follow best practices for naming variables – use descriptive names that reflect their purpose.
- Avoid using keywords, special characters, or starting names with numbers.

```
first_name = "Bob"   # Good
1st_name = "Alice"   # Not allowed
```

Constants in Python

- Constants are variables that shouldn't change throughout the program.

```
PI = 3.14159  # Constant
MAX_SPEED = 120  # Constant
```

Q & A SECTION

Test Your Knowledge
Before we move over to the recap

Key Takeaways

- Variables are fundamental for storing data in your programs.
- Good variable names make your code easier to understand and maintain.
- Constants help communicate the idea that certain values shouldn't change throughout your program.

Why Variables Matter

“ Just like variables in math, variables in programming store values that can change. They allow for dynamic programs that can handle a range of inputs and outputs. “

Thank you for attending