**AI Day 04 Notes**

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**Notes on Conditional Statements in Python**

* **Conditional Operators:**
  + Conditional operators allow you to compare values and make decisions based on the comparison results.
* **Common conditional operators include:** 
  + - **< (less than)**
    - **> (greater than)**
    - **<= (less than or equal to)**
    - **>= (greater than or equal to)**
    - **== (equal to)**
    - **!= (not equal to)**
* **if and else Statements:**
  + Used for decision-making based on a condition.
* **Syntax:**

if condition:

# Code to execute if condition is True

else:

# Code to execute if condition is False

* **Example:**

Age = int(input("Enter Your age: "))

if Age > 18:

print("You are eligible to drive.")

else:

print("You are not eligible to drive.")

* **elif Statement:**
  + Allows multiple conditions to be checked sequentially.
* **Syntax:**

if condition1:

# Code to execute if condition1 is True

elif condition2:

# Code to execute if condition2 is True

else:

# Code to execute if no conditions are True

* **Example:**

**N = int(input("Enter the value: "))**

**if N < 0:**

**print("The Number is Negative")**

**elif N == 0:**

**print("The Number is Zero")**

**else:**

**print("The Number is greater or equal to zero")**

* **Nested if Statements:**
  + **Allows conditions to be nested inside each other.**
* **Example:**

num = float(input("Enter a number: "))

if num < 0:

print("Number is Negative")

elif num > 0:

if num <= 10:

print("The number is between 1 and 10")

elif 10 < num <= 11:

print("The number is between 10 and 11")

elif 10 < num <= 20:

print("The Number is between 11 and 20")

else:

print("Number is greater than 20")

else:

print("Number is zero")

* **Nested if and else Statements:**
  + **Conditions can be nested within both if and else blocks.**
* **Example:**

**num = int(input("Enter a value: "))**

**if num < 0:**

**print("The value is less than zero")**

**elif num > 0:**

**print("The Number is Greater than zero")**

**if num <= 10:**

**print("The Number is less or equal to 10")**

**elif 10 < num <= 11:**

**print("The Number is in between 10 and 11")**

**elif 10 < num <= 20:**

**print("The number is in between 10 and 21")**

**else:**

**print("The number is greater than 20")**

**else:**

**print("The Number is equal to zero")**