



Name:

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REPEAT..UNTIL LOOP

Structure of a Repeat Until Loop

REPEAT

// Code to execute

UNTIL Condition

- **REPEAT:** Marks the start of the loop.
- **UNTIL Condition:** Specifies the condition to stop the loop. The loop will continue to execute **as long as the condition is False**.

Key Features

1. **At Least One Execution:** Since the condition is checked at the end, the loop executes at least once, even if the condition is True initially.
2. **Condition-Driven:** The loop stops as soon as the condition becomes True.
3. **Used for Input Validation or Iterations Where Exact Count is Unknown.**

Example 1: Basic Repeat Until Loop

Problem: Print numbers from 1 to 5.

Number $\leftarrow$ 1

REPEAT

OUTPUT Number

Number $\leftarrow$ Number + 1

UNTIL Number > 5

Explanation:

- The loop starts with **Number $\leftarrow$ 1**.
- It outputs the value of **Number** and increments it by 1.
- The loop continues until **Number > 5**.

Example 2: Input Validation

Problem: Ask the user to enter a positive number.

REPEAT

OUTPUT "Enter a positive number:"

INPUT UserInput

UNTIL UserInput > 0

Explanation:

- The program asks the user to enter a number.
- If the user enters a number less than or equal to 0, the loop repeats.
- The loop stops once the user enters a positive number.

Tips to Avoid Mistakes

1. **Initialize Variables:** Always set starting values for variables used in the condition.
2. **Test the Condition:** Carefully analyze how the condition will behave during each iteration.
3. **Trace the Code:** Walk through the code manually or with sample inputs to ensure correct behavior.
4. **Update Variables:** Ensure the loop variables are updated within the loop to avoid infinite execution.

LET'S TEST YOUR UNDERSTANDING

Question 1: Count the Number of Valid Passwords

A program accepts passwords from the user. A valid password must be at least 8 characters long. Write a pseudocode program to count the number of valid passwords entered. The loop stops when the user enters the word "STOP".

Question 2: Find the Largest Number

Write a pseudocode program that asks the user to enter numbers. The loop should stop when the user enters 0. The program should find and display the largest number entered (excluding 0).

