**Control flow**

Control flow in Python refers to the order in which the instructions or statements of a program are executed. Python provides several structures to control the flow of a program. The main control flow structures in Python are:

1. Conditional Statements (if, elif, else)

Conditional statements allow you to execute different blocks of code based on certain conditions.

EXAMPLE

x = 10

if x > 10:

print("x is greater than 10")

elif x == 10:

print("x is equal to 10")

else:

print("x is less than 10")

2. Loops

for loop: Iterates over a sequence (such as a list, tuple, string, or range).

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fruits = ["apple", "banana", "cherry"]

for fruit in fruits:

print(fruit)

while loop: Executes a block of code as long as a specified condition is true.

EXAMPLE

i = 1

while i < 6:

print(i)

i += 1

3. Control Statements

break: Terminates the loop it's in.

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fruits = ["apple", "banana", "cherry"]

for fruit in fruits:

print(fruit)

if fruit == "banana":

break

continue: Skips the current iteration and continues with the next iteration of the loop.

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fruits = ["apple", "banana", "cherry"]

for fruit in fruits:

if fruit == "banana":

continue

print(fruit)

pass: Acts as a placeholder and does nothing when it's executed.

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x = 10

if x > 10:

pass

else:

print("x is not greater than 10")

4. Exception Handling (try, except, finally)

Exception handling allows you to manage and respond to errors that occur during program execution.

EXAMPLE

try:

result = 10 / 0

print(result)

except ZeroDivisionError:

print("Cannot divide by zero!")

finally:

print("This will execute no matter what.")