**1. If Condition**

**Exercise:**

Write a Python program to check if a given number is positive. If it is positive, print "The number is positive".

**Solution:**

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

if num > 0:

print("The number is positive")

**2. If Condition**

**Exercise:**

Write a Python program to check if a user-inputted number is even.

**Solution:**

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

if num % 2 == 0:

print("The number is even")

**3. If-Else Condition**

**Exercise:**

Write a program to check if a number is odd or even.

**Solution:**

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

if num % 2 == 0:

print("Even number")

else:

print("Odd number")

**4. If-Else Condition**

**Exercise:**

Write a program that checks if a number is greater than 10. If it is, print "Greater than 10", otherwise print "Less than or equal to 10".

**Solution:**

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

if num > 10:

print("Greater than 10")

else:

print("Less than or equal to 10")

**5. If-Elif-Else**

**Exercise:**

Write a Python program that categorizes a person's age:

* Child (0-12)
* Teenager (13-19)
* Adult (20-59)
* Senior (60 and above)

**Solution:**

age = int(input("Enter your age: "))

if age <= 12:

print("Child")

elif 13 <= age <= 19:

print("Teenager")

elif 20 <= age <= 59:

print("Adult")

else:

print("Senior")

**6. If-Elif-Else**

**Exercise:**

Write a Python program that checks the grade of a student based on marks:

* A (90-100)
* B (80-89)
* C (70-79)
* D (60-69)
* F (Below 60)

**Solution:**

marks = int(input("Enter marks: "))

if marks >= 90:

print("Grade: A")

elif marks >= 80:

print("Grade: B")

elif marks >= 70:

print("Grade: C")

elif marks >= 60:

print("Grade: D")

else:

print("Grade: F")

**7. For Loop**

**Exercise:**

Write a program to print numbers from 1 to 10 using a for loop.

**Solution:**

for i in range(1, 11):

print(i)

**8. For Loop**

**Exercise:**

Write a program to calculate the sum of numbers from 1 to 100 using a for loop.

**Solution:**

total = 0

for i in range(1, 101):

total += i

print("Sum:", total)

**9. While Loop**

**Exercise:**

Write a program to print numbers from 1 to 10 using a while loop.

**Solution:**

i = 1

while i <= 10:

print(i)

i += 1

**10. While Loop**

**Exercise:**

Write a program that prints the multiplication table of a given number.

**Solution:**

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

i = 1

while i <= 10:

print(f"{num} x {i} = {num \* i}")

i += 1

**11. Break Statement**

**Exercise:**

Write a program to take input from the user continuously, but break when the user enters "exit".

**Solution:**

while True:

user\_input = input("Enter something (type 'exit' to quit): ")

if user\_input.lower() == "exit":

break

**12. Break Statement**

**Exercise:**

Write a program that prints numbers from 1 to 10, but stops printing when it reaches 5.

**Solution:**

for i in range(1, 11):

if i == 5:

break

print(i)

**13. Continue Statement**

**Exercise:**

Write a program that prints numbers from 1 to 10, but skips 5.

**Solution:**

for i in range(1, 11):

if i == 5:

continue

print(i)

**14. Continue Statement**

**Exercise:**

Write a program that prints all even numbers from 1 to 20 using a loop and continue.

**Solution:**

for i in range(1, 21):

if i % 2 != 0:

continue

print(i)

**15. Pass Statement**

**Exercise:**

Write a program with an if-else statement where one of the blocks contains a pass statement.

**Solution:**

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

if num > 0:

pass # Will implement later

else:

print("Negative number")

**16. Pass Statement**

**Exercise:**

Write a function that checks if a number is prime, but use pass for the actual logic for now.

**Solution:**

def check\_prime(num):

pass # Logic will be implemented later

check\_prime(7)

**17. Nested If**

**Exercise:**

Write a Python program to check if a number is positive and even.

**Solution:**

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

if num > 0:

if num % 2 == 0:

print("Positive and Even number")

**18. Nested If**

**Exercise:**

Write a Python program to check if a number is divisible by both 2 and 3.

**Solution:**

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

if num % 2 == 0:

if num % 3 == 0:

print("Divisible by both 2 and 3")

**19. Loop with Else**

**Exercise:**

Write a program that prints numbers from 1 to 5 and prints "Done" after the loop ends.

**Solution:**

for i in range(1, 6):

print(i)

else:

print("Done")

**20. Loop with Else**

**Exercise:**

Write a program that checks for a prime number using a for-else loop.

**Solution:**

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

for i in range(2, num):

if num % i == 0:

print("Not a prime number")

break

else:

print("Prime number")