

20 Basic While Loop Programs (All Different)

1. Print Numbers from 1 to 10

Prints numbers from 1 to 10 using a while loop.

```
i = 1
while i <= 10:
    print(i)
    i += 1
```

2. Print Even Numbers up to 20

Displays all even numbers between 1 and 20.

```
i = 2
while i <= 20:
    print(i)
    i += 2
```

3. Print Odd Numbers up to 15

Displays all odd numbers from 1 to 15.

```
i = 1
while i <= 15:
    print(i)
    i += 2
```

4. Sum of First 10 Natural Numbers

Calculates the sum from 1 to 10.

```
i = 1
sum = 0
while i <= 10:
    sum += i
    i += 1
print("Sum:", sum)
```

5. Factorial of a Number

Finds factorial of a given number.

```
num = 5
fact = 1
while num > 0:
    fact *= num
    num -= 1
print("Factorial:", fact)
```

6. Reverse a Number

Reverses the digits of a number.

```
num = 1234
rev = 0
while num > 0:
    digit = num % 10
    rev = rev * 10 + digit
    num //= 10
print("Reversed:", rev)
```

7. Count Digits in a Number

Counts total digits in a number.

```
num = 98765
count = 0
while num > 0:
```

```
num //= 10
count += 1
print("Digits:", count)
```

8. Multiplication Table of a Number

Prints multiplication table of 5.

```
num = 5
i = 1
while i <= 10:
    print(num, "x", i, "=", num*i)
    i += 1
```

9. Find Largest Digit in a Number

Finds largest digit in a number.

```
num = 58321
largest = 0
while num > 0:
    digit = num % 10
    if digit > largest:
        largest = digit
    num //= 10
print("Largest Digit:", largest)
```

10. Check Palindrome Number

Checks whether a number is palindrome.

```
num = 121
original = num
rev = 0
while num > 0:
    rev = rev * 10 + num % 10
```

```
num //= 10
print("Palindrome" if original == rev else "Not Palindrome")
```

11. Print Numbers in Reverse Order

Prints numbers from 10 to 1.

```
i = 10
while i >= 1:
    print(i)
    i -= 1
```

12. Calculate Power of a Number

Calculates 2 raised to power 5.

```
base = 2
exp = 5
result = 1
while exp > 0:
    result *= base
    exp -= 1
print("Power:", result)
```

13. Sum of Digits

Calculates sum of digits of a number.

```
num = 1234
sum = 0
while num > 0:
    sum += num % 10
    num //= 10
print("Sum of digits:", sum)
```

14. Guess the Number Game

Keeps asking until correct number is guessed.

```
secret = 5
guess = 0
while guess != secret:
    guess = int(input("Guess number: "))
print("Correct!")
```

15. Count Down Timer

Simple countdown from 5.

```
i = 5
while i > 0:
    print(i)
    i -= 1
print("Time's up!")
```

16. Keep Running Until User Types Exit

Program runs until user types 'exit'.

```
text = ""
while text != "exit":
    text = input("Type something (exit to stop): ")
print("Program Ended")
```

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