# 40 Basic Questions on Functions and While Loop in Python

## Functions – 20 Questions

1. What is a function in Python?

A function is a block of reusable code that performs a specific task.

1. How do you define a function in Python?

By using the def keyword followed by the function name and parentheses.

1. How do you call a function in Python?

By writing the function name followed by parentheses.

Ex : words()

1. What is the purpose of the `return` statement?

It is used to send a result back from a function to the caller.

1. Write a function to add two numbers and return the result.

def add(a,b):

return a+b

print(add(2,6))

1. What is the difference between parameters and arguments?

Parameters are variables in a function definition; arguments are the values passed to the function.

1. What happens if you define a function but never call it?

Nothing happens; the function is stored but not executed.

1. Write a function to check if a number is even or odd.

def check\_even\_odd(num):

if num % 2 == 0:

return "Even"

else:

return "Odd"

1. What is a default argument in a function? Give an example.

It's a value assigned to a parameter if no argument is passed.

Example:

def greet(name="Guest"):

return "Hello " + name

1. What is a keyword argument?

An argument passed to a function by explicitly specifying the parameter name. Example: greet(name="John")

1. Write a function with a default argument.

def power(base, exponent=2):

return base \*\* exponent

1. Write a function that returns the square of a number.

Def square(a)

Return a\*a

Print(square(2))

1. Can a function return multiple values? Give an example.

Yes.

Example: def calc(x, y):

return x + y, x – y

1. What is the difference between `print()` and `return` inside a function?

print() displays output; return gives a value back to the caller.

1. What is a global variable?

A variable declared outside all functions and accessible everywhere in the code.

1. What is a local variable inside a function?

A variable declared inside the functions and accessible within that in the code.

1. Write a function that accepts name and age and prints them.

def display(name, age):

print("Name:", name)

print("Age:", age)

1. What is the use of the `pass` statement in a function?

It is used as a placeholder when no code is to be executed.

1. Write a lambda function to multiply two numbers.
2. Write a function that calculates the factorial of a number using recursion.

def factorial(n):

if n == 0 or n == 1:

return 1

else:

return n \* factorial(n - 1)

## While Loop – 20 Questions

1. What is a while loop?

A control flow statement that repeats a block of code as long as a condition is true.

1. Write a while loop that prints numbers from 1 to 5.

i = 1

while i <= 5:

print(i)

i += 1

1. What is an infinite while loop?

A loop that never ends because the condition always remains true.

Ex: While(1)

1. How do you stop an infinite while loop?

By using break statement.

1. Write a while loop to print even numbers between 1 and 10.

I = 1

While i<11

Print(i)

I = i+1

1. What is the difference between `for` and `while` loops?

for is used when the number of iterations is known; while is used when it depends on a condition.

1. How do you use a break statement in a while loop?

i = 1

while i <= 10:

if i == 5:

break

print(i)

i += 1

1. How do you use a continue statement in a while loop?

i = 0

while i < 5:

i += 1

if i == 3:

continue

print(i)

1. Write a program to sum numbers from 1 to 100 using a while loop.

i = 1

total = 0

while i <= 100:

total += i

i += 1

1. Write a while loop that asks the user for input until they type “exit”.

while True:

user\_input = input("Enter something: ")

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

break

1. What is the purpose of initializing a variable before a while loop?

To ensure the loop has a starting condition and avoids errors.

1. Write a while loop to print the multiplication table of 5.

i = 1

while i <= 10:

print("5 x", i, "=", 5 \* i)

i += 1

1. What happens if the condition of a while loop is always true?

The loop runs infinitely unless stopped by a break or external intervention.

1. How can you create a countdown from 10 to 1 using a while loop?

i = 10

while i >= 1:

print(i)

i -= 1

1. Write a while loop that prints only odd numbers from 1 to 20.

i = 1

while i <= 20:

print(i)

i += 2

1. Can you use else with a while loop? Give an example.

Yes.

i = 1

while i <= 3:

print(i)

i += 1

else:

print("Loop ended")

1. Write a while loop to reverse a number (e.g., input 123, output 321).

num = 123

rev = 0

while num > 0:

rev = rev \* 10 + num % 10

num //= 10

print(rev)

1. What is the importance of updating the condition inside a while loop?

To eventually make the condition false and prevent an infinite loop.

1. Write a while loop that calculates the factorial of a number.

num = 5

result = 1

while num > 0:

result \*= num

num -= 1

print(result)

1. Write a program using while loop to check if a number is a palindrome.

num = 121

temp = num

rev = 0

while temp > 0:

rev = rev \* 10 + temp % 10

temp //= 10

if num == rev:

print("Palindrome")

else:

print("Not a palindrome")