# 40 Basic Questions on Functions and While Loop in Python

## Functions – 20 Questions

1. What is a function in Python?
2. How do you define a function in Python?
3. How do you call a function in Python?
4. What is the purpose of the `return` statement?
5. Write a function to add two numbers and return the result.
6. What is the difference between parameters and arguments?
7. What happens if you define a function but never call it?
8. Write a function to check if a number is even or odd.
9. What is a default argument in a function? Give an example.
10. What is a keyword argument?
11. Write a function with a default argument.
12. Write a function that returns the square of a number.
13. Can a function return multiple values? Give an example.
14. What is the difference between `print()` and `return` inside a function?
15. What is a global variable?
16. What is a local variable inside a function?
17. Write a function that accepts name and age and prints them.
18. What is the use of the `pass` statement in a function?
19. Write a lambda function to multiply two numbers.
20. Write a function that calculates the factorial of a number using recursion.

## While Loop – 20 Questions

1. What is a while loop?
2. Write a while loop that prints numbers from 1 to 5.
3. What is an infinite while loop?
4. How do you stop an infinite while loop?
5. Write a while loop to print even numbers between 1 and 10.
6. What is the difference between `for` and `while` loops?
7. How do you use a break statement in a while loop?
8. How do you use a continue statement in a while loop?
9. Write a program to sum numbers from 1 to 100 using a while loop.
10. Write a while loop that asks the user for input until they type “exit”.
11. What is the purpose of initializing a variable before a while loop?
12. Write a while loop to print the multiplication table of 5.
13. What happens if the condition of a while loop is always true?
14. How can you create a countdown from 10 to 1 using a while loop?
15. Write a while loop that prints only odd numbers from 1 to 20.
16. Can you use else with a while loop? Give an example.
17. Write a while loop to reverse a number (e.g., input 123, output 321).
18. What is the importance of updating the condition inside a while loop?
19. Write a while loop that calculates the factorial of a number.
20. Write a program using while loop to check if a number is a palindrome.