# Working with Functions in Python Class 12 Solutions

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**1. What do you understand by local and global scope of variables?**

**Answer –** A global variable is one that is accessible outside and inside the function; it is also known as a global scope. A local variable is one that is only accessible inside the function.

Example of Global Variable:

```
x = 20 # Global variable

def my_function():
    print(x) # Accessible inside the function

my_function()
print(x) # Accessible outside the function too
```

Example of Local Variable:

```
def my_function():
    x = 10 # Local variable
    print(x) # Accessible inside the function

my_function()
print(x) # This will raise an error because x is local to my_function.
```

**3. Differentiate between the round() and floor() functions with the help of suitable example.**

**Answer –** The function floor() is used to convert to the lowest lower whole number, whereas the function round() is used to convert a fractional number into a whole as the nearest next. For example, round (5.8) = 6, round (4.1) = 5, and floor (6.9) = 6, floor (5.01) = 5.

```
import math

print(round(5.8)) # Output: 6
print(round(4.1)) # Output: 4
print(math.floor(6.9)) # Output: 6
print(math.floor(5.01)) # Output: 5
```

**4. What is the difference between input() and raw_input()?**

**Answer –** In Python, raw_input() and input() were two functions used for taking input from the users. raw_input() is used in Python to take user input as a string, whereas the input() function takes user input based on the input type. For example, if the user has entered a number, then Python interprets it as an integer rather than a string.

**5. What is a function in python?**

**Answer –** A function is a reusable block of code that performs a specific task. The function helps to organise the code efficiently and reduce repetition of code. Instead of writing the same code multiple times, you can define a function, and you can reuse it multiple times.

**6. Write and explain the types of functions supported by python.**

**Answer –** Python functions are categorised into two main types: built-in functions and user-defined functions. Built-in functions come with several pre-defined functions which perform various tasks such as input handling, mathematical operations and type conversion, etc. User-defined functions are created by programmers using the def keyword. These functions are helpful for organisation of the code and improving reusability.

**7. Write a Python function to calculate the factorial of a number (a non-negative integer). The function accepts the number as an argument.**

**Answer –**

```
def factorial(n):
    if n < 0:
        return
    elif n == 0:
        return 1
    else:
        return n * factorial(n - 1)

n = int(input("Enter a non-negative integer: "))

print(f"Factorial of {n} is {factorial(n)}")
```

**Output:**
Enter a non-negative integer: 5
Factorial of 5 is 120

**8. Write a Python function to find the Max of two numbers.**

**Answer –**

```
def max_number(x, y):
    if x > y:
        return x
    else:
        return y

print(max_number(2, 5))
```

**Output:**
5

**9. Write a program to create a function that takes two arguments, name and age, and print their value.**

**Answer –**

```
def student(name, age):
    print(name, age)

student("Amit", 22)
```