**PYTHON BASIC EXERCISES**

Name: Aleena  
Registration No: FA24-BBA-110  
Instructor: Mam Mufeeza

# Python Exercises with Solutions

1. \*\*Variable for Name\*\*  
```python  
name = "Aleena"  
print(name)  
```  
  
2. \*\*Sum of Two Numbers\*\*  
```python  
a = 7  
b = 3  
print(a + b)  
```  
  
3. \*\*Integer and Float Data Types\*\*  
```python  
num1 = 12  
num2 = 4.5  
print(type(num1), type(num2))  
```  
  
4. \*\*Length of a String\*\*  
```python  
text = "Hello, Python"  
print(len(text))  
```  
  
5. \*\*Square of a Number\*\*  
```python  
x = 5  
print(x \*\* 2)  
```  
  
6. \*\*Input and Data Type\*\*  
```python  
# user\_input = input("Enter something: ")  
# print(type(user\_input))  
```  
  
7. \*\*Boolean Check\*\*  
```python  
status = True  
print(status is True)  
```  
  
8. \*\*Using f-string\*\*  
```python  
age = 19  
print(f"My name is {name} and I am {age} years old.")  
```  
  
9. \*\*Integer to Float\*\*  
```python  
x = 10  
print(float(x))  
```  
  
10. \*\*Complex Number Parts\*\*  
```python  
z = 2 + 5j  
print("Real:", z.real, "Imaginary:", z.imag)  
```  
  
11. \*\*Basic Arithmetic\*\*  
```python  
a, b = 8, 2  
print(a + b, a - b, a \* b, a / b)  
```  
  
12. \*\*Floor Division\*\*  
```python  
print(a // b)  
```  
  
13. \*\*Modulus\*\*  
```python  
print(a % b)  
```  
  
14. \*\*Exponentiation\*\*  
```python  
print(a \*\* b)  
```  
  
15. \*\*Comparison Operators\*\*  
```python  
print(a > b, a < b, a == b, a != b)  
```  
  
16. \*\*Logical Operators\*\*  
```python  
print(a > 5 and b < 5)  
print(a < 5 or b < 5)  
print(not a == b)  
```  
  
17. \*\*Operator Precedence\*\*  
```python  
print(2 + 3 \* 4)  
```  
  
18. \*\*Compound Assignment\*\*  
```python  
num = 10  
num += 5  
num -= 3  
print(num)  
```  
  
19. \*\*Average of Two Numbers\*\*  
```python  
# n1 = float(input("Enter first number: "))  
# n2 = float(input("Enter second number: "))  
# print((n1 + n2) / 2)  
```  
  
20. \*\*Even or Odd (Ternary Operator)\*\*  
```python  
n = 4  
print("Even" if n % 2 == 0 else "Odd")  
```  
  
21. \*\*Positive, Negative, or Zero\*\*  
```python  
num = -5  
if num > 0:  
 print("Positive")  
elif num < 0:  
 print("Negative")  
else:  
 print("Zero")  
```  
  
22. \*\*Even or Odd (Input)\*\*  
```python  
# num = int(input("Enter a number: "))  
# print("Even" if num % 2 == 0 else "Odd")  
```  
  
23. \*\*Adult or Minor\*\*  
```python  
# age = int(input("Enter your age: "))  
# print("Adult" if age >= 18 else "Minor")  
```  
  
24. \*\*Largest of Three Numbers\*\*  
```python  
a, b, c = 10, 25, 17  
print(max(a, b, c))  
```  
  
25. \*\*Grading System\*\*  
```python  
marks = 85  
if marks >= 90:  
 print("A")  
elif marks >= 80:  
 print("B")  
elif marks >= 70:  
 print("C")  
elif marks >= 60:  
 print("D")  
else:  
 print("F")  
```  
  
26. \*\*Leap Year Check\*\*  
```python  
year = 2024  
if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):  
 print("Leap Year")  
else:  
 print("Not a Leap Year")  
```  
  
27. \*\*Temperature Check\*\*  
```python  
temp = 25  
if temp > 30:  
 print("Hot")  
elif temp >= 20:  
 print("Warm")  
else:  
 print("Cold")  
```  
  
28. \*\*Password Check\*\*  
```python  
password = "python123"  
# user\_pass = input("Enter password: ")  
# print("Access Granted" if user\_pass == password else "Access Denied")  
```  
  
29. \*\*Vowel or Consonant\*\*  
```python  
ch = 'a'  
if ch.lower() in 'aeiou':  
 print("Vowel")  
else:  
 print("Consonant")  
```  
  
30. \*\*Day of the Week\*\*  
```python  
day = 3  
days = ["Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday", "Sunday"]  
print(days[day - 1])  
```  
  
31. \*\*List of Fruits\*\*  
```python  
fruits = ["apple", "banana", "cherry"]  
print(fruits)  
```  
  
32. \*\*Add and Remove Elements\*\*  
```python  
fruits.append("orange")  
fruits.remove("banana")  
print(fruits)  
```  
  
33. \*\*Sum of List\*\*  
```python  
nums = [1, 2, 3, 4, 5]  
print(sum(nums))  
```  
  
34. \*\*Max and Min\*\*  
```python  
print(max(nums), min(nums))  
```  
  
35. \*\*List Slicing\*\*  
```python  
print(nums[:3], nums[-3:])  
```  
  
36. \*\*Replace Element\*\*  
```python  
nums[2] = 10  
print(nums)  
```  
  
37. \*\*Reverse List\*\*  
```python  
print(nums[::-1])  
```  
  
38. \*\*Count Elements\*\*  
```python  
nums = [1, 2, 3, 2, 4, 2]  
print(nums.count(2))  
```  
  
39. \*\*Concatenate Lists\*\*  
```python  
list1 = [1, 2, 3]  
list2 = [4, 5, 6]  
print(list1 + list2)  
```  
  
40. \*\*List Comprehension (Squares)\*\*  
```python  
squares = [i\*\*2 for i in range(1, 11)]  
print(squares)  
```  
  
41. \*\*Tuple Display\*\*  
```python  
t = (1, 2, 3, 4)  
print(t)  
```  
  
42. \*\*Tuple Unpacking\*\*  
```python  
a, b, c, d = t  
print(a, b, c, d)  
```  
  
43. \*\*Index and Count in Tuple\*\*  
```python  
print(t.index(3))  
print(t.count(2))  
```  
  
44. \*\*Tuple to List and Back\*\*  
```python  
t\_list = list(t)  
t\_list[0] = 10  
t = tuple(t\_list)  
print(t)  
```  
  
45. \*\*Concatenate Tuples\*\*  
```python  
t1 = (1, 2)  
t2 = (3, 4)  
print(t1 + t2)  
```