Python Basics

```
print("Hello, World!")
```

Q2. Write a Python program that displays your name and age.

```
name = "John Doe"
age = 25
print(f"My name is {name} and I am {age} years old.")
```

Q3. Write code to print all the pre-defined keywords in Python using the keyword library.

```
import keyword
print(keyword.kwlist)
```

Q4. Write a program that checks if a given word is a Python keyword.

```
import keyword
word = input("Enter a word: ")
if keyword.iskeyword(word):
    print(f"{word} is a Python keyword.")
else:
    print(f"{word} is not a Python keyword.")
```

Q5. Create a list and tuple in Python, and demonstrate how attempting to change an element works differently for each.

```
my_list = [1, 2, 3]
my_tuple = (1, 2, 3)

# Modifying list
my_list[0] = 10
print("Modified list:", my_list)

# Trying to modify tuple
try:
    my_tuple[0] = 10
except TypeError as e:
    print("Error:", e)
```

Q6. Write a function to demonstrate the behavior of mutable and immutable arguments.

```
def modify_list(lst):
    lst.append(4)
```

```
def modify_string(s):
    s += " world"

my_list = [1, 2, 3]
my_string = "hello"

modify_list(my_list)
print("Modified list:", my_list)

modify_string(my_string)
print("String after function call:", my_string)
```

Q7. Write a program that performs basic arithmetic operations on two user-input numbers.

```
num1 = int(input("Enter first number: "))
num2 = int(input("Enter second number: "))

print("Addition:", num1 + num2)
print("Subtraction:", num1 - num2)
print("Multiplication:", num1 * num2)
print("Division:", num1 / num2 if num2 != 0 else "Cannot divide by zero")
```

Q8. Write a program to demonstrate the use of logical operators.

```
x = True
y = False

print("x and y:", x and y)
print("x or y:", x or y)
print("not x:", not x)
```

Q9. Write a Python program to convert user input from string to integer, float, and boolean types.

```
user_input = input("Enter a number: ")

int_val = int(user_input)
float_val = float(user_input)
bool_val = bool(int_val)

print("Integer:", int_val)
print("Float:", float_val)
print("Boolean:", bool_val)
```

Q10. Write code to demonstrate type casting with list elements.

```
str_list = ["1", "2", "3"]
int_list = list(map(int, str_list))
print("List of integers:", int_list)
```

Q11. Write a program that checks if a number is positive, negative, or zero.

```
num = float(input("Enter a number: "))
if num > 0:
    print("Positive")
elif num < 0:
    print("Negative")
else:
    print("Zero")
```

Q12. Write a for loop to print numbers from 1 to 10.

```
for i in range(1, 11):
    print(i)
```

Q13. Write a Python program to find the sum of all even numbers between 1 and 50.

```
total = 0
for i in range(1, 51):
    if i % 2 == 0:
        total += i
print("Sum of even numbers from 1 to 50:", total)
```

Q14. Write a program to reverse a string using a while loop.

```
string = input("Enter a string: ")
reversed_string = ""
i = len(string) - 1

while i >= 0:
    reversed_string += string[i]
    i -= 1

print("Reversed string:", reversed_string)
```

Q15. Write a Python program to calculate the factorial of a number provided by the user using a while loop.

```
# Get input from the user
num = int(input("Enter a number to calculate its factorial: "))

# Initialize variables
factorial = 1
```

```
i = 1

# Calculate factorial using a while loop
while i <= num:
    factorial *= i
    i += 1

print(f"The factorial of {num} is: {factorial}")
```

Start coding or generate with AI.