Python Operators

Assignment Questions

Name : Arnab Manal

Email : mandal.arnab2004@gmail.com

1) Calculate the sum, difference, product, and quotient of two numbers.

Ans:

```python
def main():
    try:
        num1 = float(input("Enter the first number: "))
        num2 = float(input("Enter the second number: "))
    except ValueError:
        print("Invalid input. Please enter numeric values.")
        return
```

```python
    sum_result = num1 + num2
    difference = num1 - num2
    product = num1 * num2
    if num2 != 0:
        quotient = num1 / num2
    else:
        print("Error: Division by zero is not allowed.")
        return
    print(f"Sum: {sum_result:.2f}")
    print(f"Difference: {difference:.2f}")
    print(f"Product: {product:.2f}")
    print(f"Quotient: {quotient:.2f}")

if __name__ == "__main__":
    main()
```

2) Perform various assignment operations on a variable.

Ans:

```python
# Initial assignment

x = 10

print("Initial assignment: x =", x)

# Assignment with addition

x += 5  # Equivalent to x = x + 5

print("After addition: x =", x)

# Assignment with subtraction
```

```python
x -= 3  # Equivalent to x = x - 3

print("After subtraction: x =", x)

# Assignment with multiplication

x *= 2  # Equivalent to x = x * 2

print("After multiplication: x =", x)

# Assignment with division

x /= 4  # Equivalent to x = x / 4

print("After division: x =", x)

# Assignment with modulus

x %= 3  # Equivalent to x = x % 3

print("After modulus: x =", x)

# Assignment with exponentiation

x **= 2  # Equivalent to x = x ** 2

print("After exponentiation: x =", x)

# Assignment with floor division

x //= 2  # Equivalent to x = x // 2

print("After floor division: x =", x)
```

3) Compare two numbers and print the results.

Ans:

```python
# Get input from the user

num1 = float(input("Enter the first number: "))

num2 = float(input("Enter the second number: "))


# Compare the two numbers and print the results

if num1 > num2:

    print(f"{num1} is greater than {num2}")

elif num1 < num2:

    print(f"{num1} is less than {num2}")

else:

    print(f"{num1} is equal to {num2}")
```
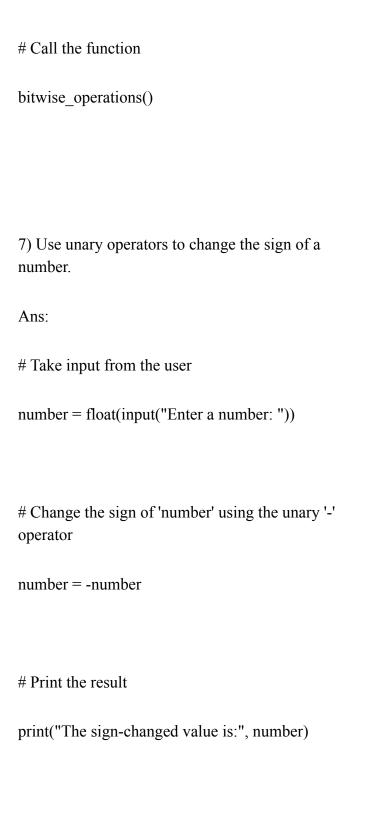
4) Check conditions using logical operators.

Ans:

```python
# Taking input from the user

a = int(input("Enter the first number: "))

b = int(input("Enter the second number: "))



# Check conditions using logical operators

if a > 0 and b > 0:

    print("Both numbers are positive.")

else:

    print("At least one number is not positive.")



if a > 0 or b > 0:

    print("At least one of the numbers is
```
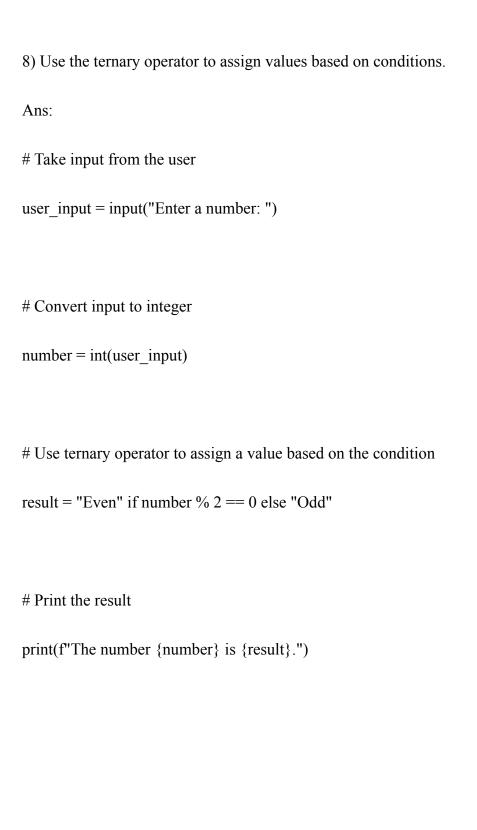
positive.")

else:

   print("Both numbers are not positive.")

if not (a < 0 and b < 0):

   print("At least one number is not negative.")

else:

   print("Both numbers are negative.")

5) Check the identity of variables.

Ans:

```python
# Take input from the user

var1 = input("Enter value for var1: ")

var2 = input("Enter value for var2: ")
```

```python
# Check the identity of the variables

print(f"ID of var1: {id(var1)}")

print(f"ID of var2: {id(var2)}")



# Compare the identity of the variables

if id(var1) == id(var2):

    print("var1 and var2 refer to the same object.")

else:

    print("var1 and var2 refer to different objects.")
```

6) Perform bitwise operations on any two integers

Ans:

```python
. def bitwise_operations():

    # Input: Two integers

    num1 = int(input("Enter the first integer: "))

    num2 = int(input("Enter the second integer: "))


    # Perform bitwise operations

    print("\nBitwise Operations:")

    print(f"{num1} & {num2} = {num1 &
num2}")

    print(f"{num1} | {num2} = {num1 | num2}")

    print(f"{num1} ^ {num2} = {num1 ^ num2}")

    print(f"~{num1} = {~num1}")

    print(f"~{num2} = {~num2}")

    print(f"{num1} << 1 = {num1 << 1}")

    print(f"{num2} << 1 = {num2 << 1}")

    print(f"{num1} >> 1 = {num1 >> 1}")

    print(f"{num2} >> 1 = {num2 >> 1}")
```

Call the function

bitwise_operations()

7) Use unary operators to change the sign of a
number.

Ans:

Take input from the user

number = float(input("Enter a number: "))

Change the sign of 'number' using the unary '-'
operator

number = -number

Print the result

print("The sign-changed value is:", number)

8) Use the ternary operator to assign values based on conditions.

Ans:

Take input from the user

user_input = input("Enter a number: ")

Convert input to integer

number = int(user_input)

Use ternary operator to assign a value based on the condition

result = "Even" if number % 2 == 0 else "Odd"

Print the result

print(f"The number {number} is {result}.")

Data Science With Generative AI
Course