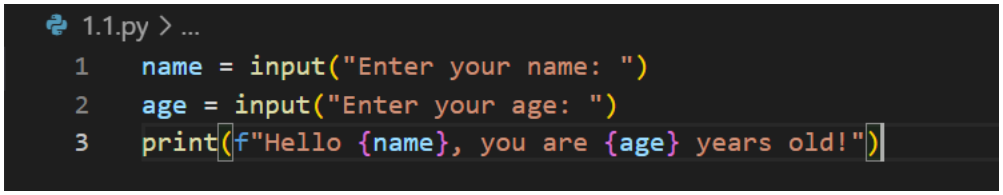
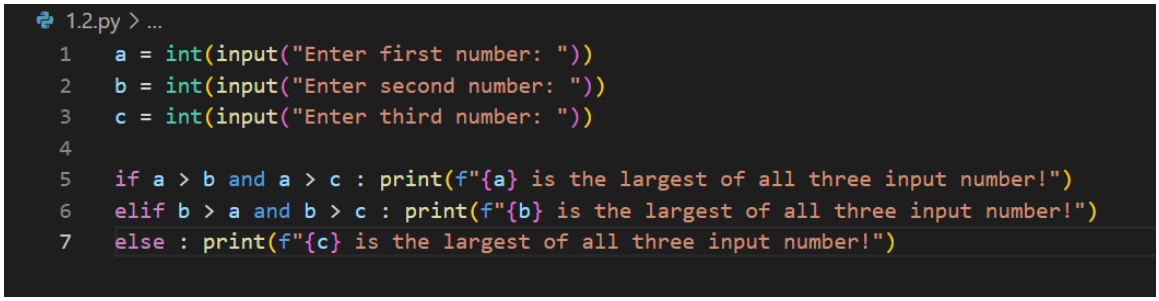
Introduction to Python

1. Write a Python script that accepts user input for name and age and prints a greeting message.



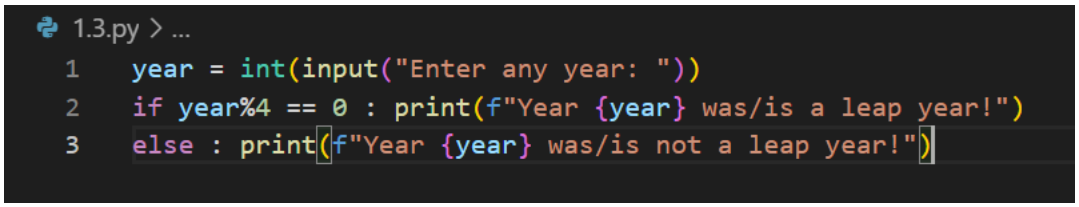
```python
name = input("Enter your name: ")
age = input("Enter your age: ")
print(f"Hello {name}, you are {age} years old!")
```

2. Create a program to find the largest of three input numbers using conditional statements.



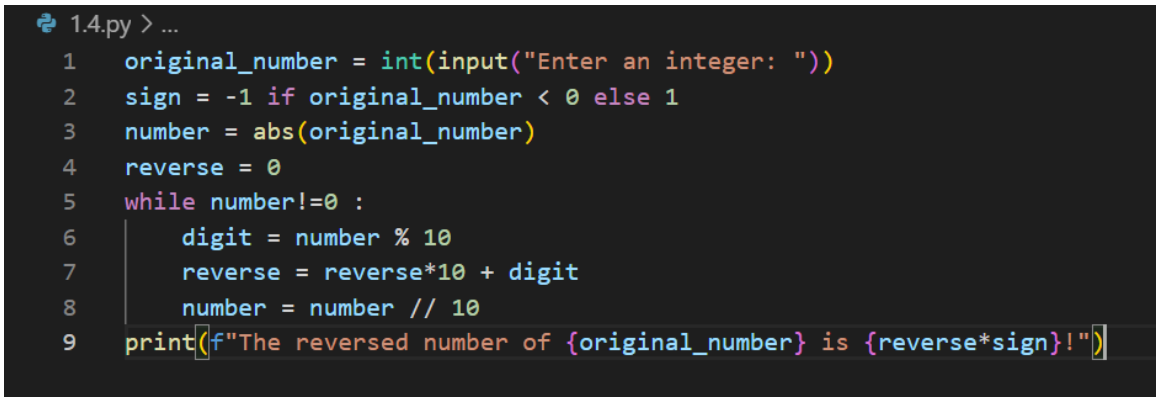
```python
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))
c = int(input("Enter third number: "))

if a > b and a > c : print(f"{a} is the largest of all three input number!")
elif b > a and b > c : print(f"{b} is the largest of all three input number!")
else : print(f"{c} is the largest of all three input number!")
```

3. Write a script to check if a given year is a leap year.



```python
year = int(input("Enter any year: "))
if year%4 == 0 : print(f"Year {year} was/is a leap year!")
else : print(f"Year {year} was/is not a leap year!")
```

4. Develop a Python program that reverses a given integer.



```python
original_number = int(input("Enter an integer: "))
sign = -1 if original_number < 0 else 1
number = abs(original_number)
reverse = 0
while number!=0 :
    digit = number % 10
    reverse = reverse*10 + digit
    number = number // 10
print(f"The reversed number of {original_number} is {reverse*sign}!")
```

5. Write a script that swaps two variables without using a third variable.

1.5.py > ...

```python
var1 = int(input("Enter variable1: "))
var2 = int(input("Enter variable2: "))
print(f"Initially, variable1 was {var1} and variable2 was {var2}!")
var1, var2 = var2, var1
print(f"Now, variable1 is {var1} and variable2 is {var2}!")
```

6. Create a program that simulates a simple calculator supporting +, -, *, / with input parsing.

1.6.py > ...

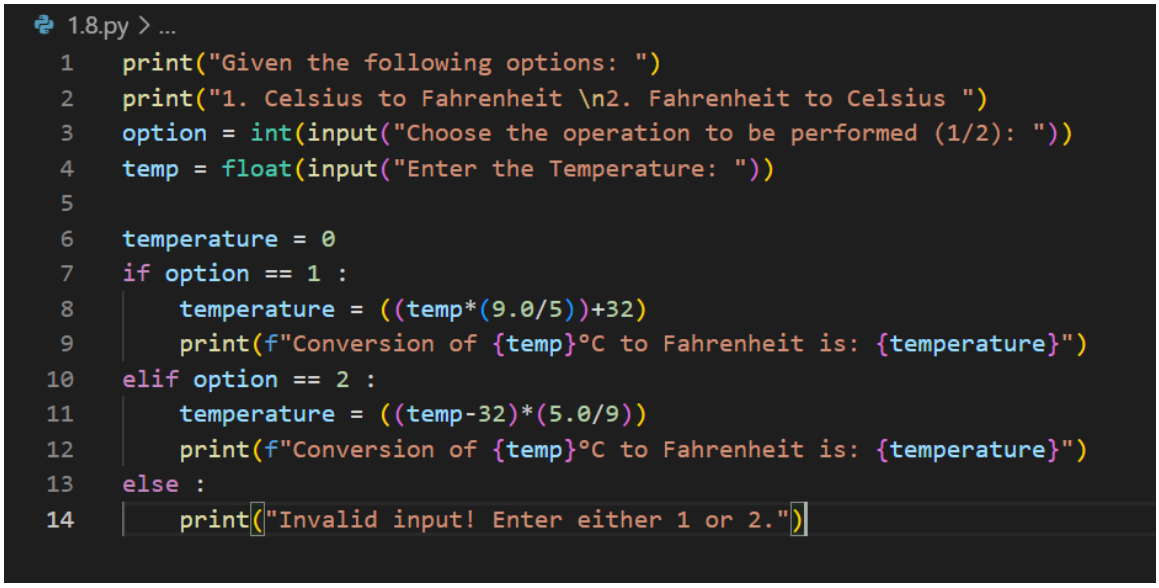
```python
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))

print(f"Addition of {a} with {b} is {a + b}")
print(f"Substraction of {a} from {b} is {a - b}")
print(f"Multiplication of {a} with {b} is {a * b}")
if b != 0:
    print(f"Division of {a} by {b} is {a / b}")
else:
    print(f"Division of {a} by {b} is not allowed.")
```

7. Write a Python script to determine if a given number is a prime number.

1.7.py > ...

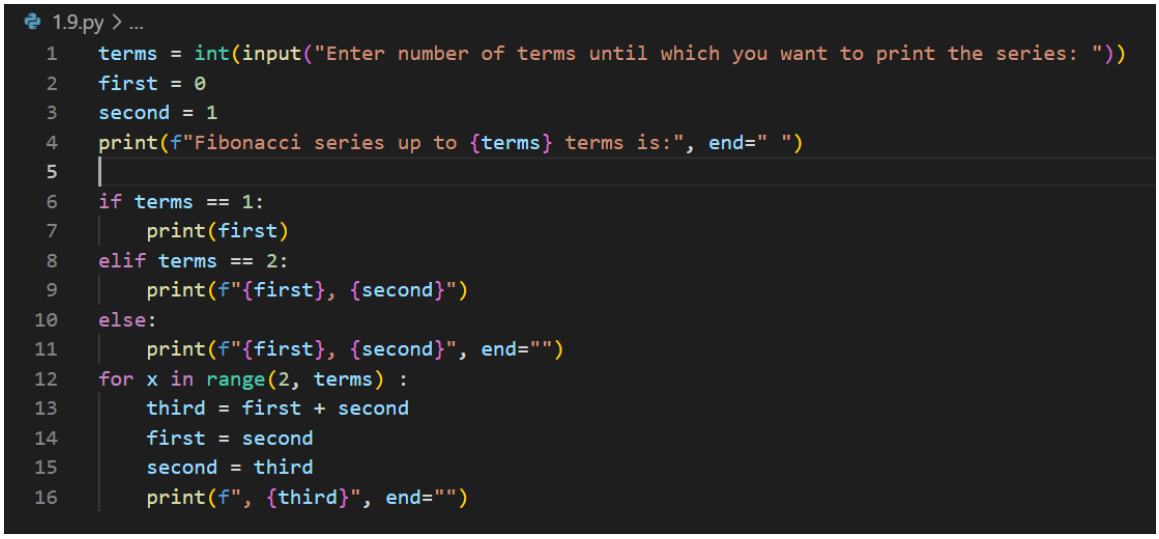
```python
number = int(input("Enter a number: "))
if number <= 1:
    print(f"{number} is not a prime number.")
else :
    is_prime = True
    for x in range(2, int(number ** 0.5) + 1):
        if number % x == 0 :
            is_prime = False
            break
    if is_prime : print(f"{number} is a prime number!")
    else : print(f"{number} is not a prime number!")
```

8. Develop a program to convert a given temperature from Celsius to Fahrenheit and vice versa.



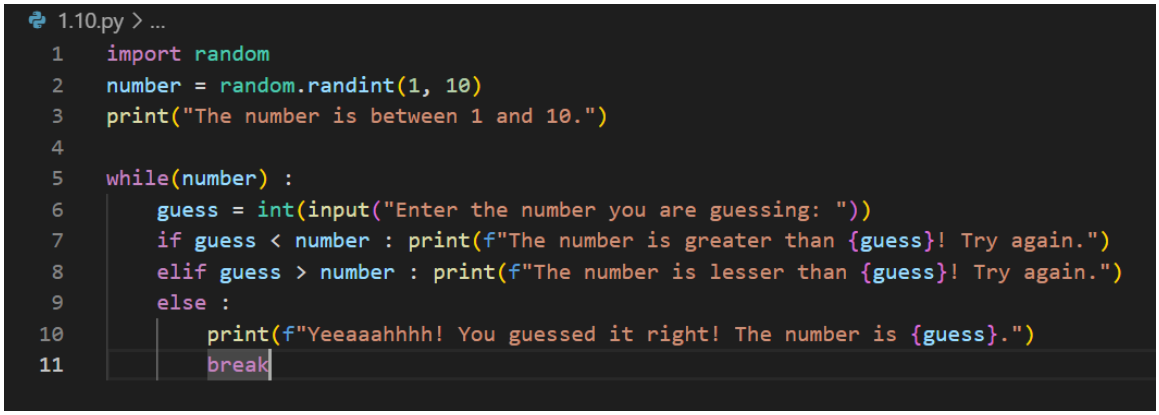
```python
print("Given the following options: ")
print("1. Celsius to Fahrenheit \n2. Fahrenheit to Celsius ")
option = int(input("Choose the operation to be performed (1/2): "))
temp = float(input("Enter the Temperature: "))

temperature = 0
if option == 1 :
    temperature = ((temp*(9.0/5))+32)
    print(f"Conversion of {temp}°C to Fahrenheit is: {temperature}")
elif option == 2 :
    temperature = ((temp-32)*(5.0/9))
    print(f"Conversion of {temp}°C to Fahrenheit is: {temperature}")
else :
    print("Invalid input! Enter either 1 or 2.")
```

9. Create a Python program that prints the Fibonacci sequence up to n terms using iteration.



```python
terms = int(input("Enter number of terms until which you want to print the series: "))
first = 0
second = 1
print(f"Fibonacci series up to {terms} terms is:", end=" ")

if terms == 1:
    print(first)
elif terms == 2:
    print(f"{first}, {second}")
else:
    print(f"{first}, {second}", end="")
for x in range(2, terms) :
    third = first + second
    first = second
    second = third
    print(f", {third}", end="")
```

10. Implement a basic number guessing game where the computer selects a random number.



1.10.py > ...

```python
import random
number = random.randint(1, 10)
print("The number is between 1 and 10.")

while(number) :
    guess = int(input("Enter the number you are guessing: "))
    if guess < number : print(f"The number is greater than {guess}! Try again.")
    elif guess > number : print(f"The number is lesser than {guess}! Try again.")
    else :
        print(f"Yeeaaahhhh! You guessed it right! The number is {guess}.")
        break
```