Python exercise for if statements
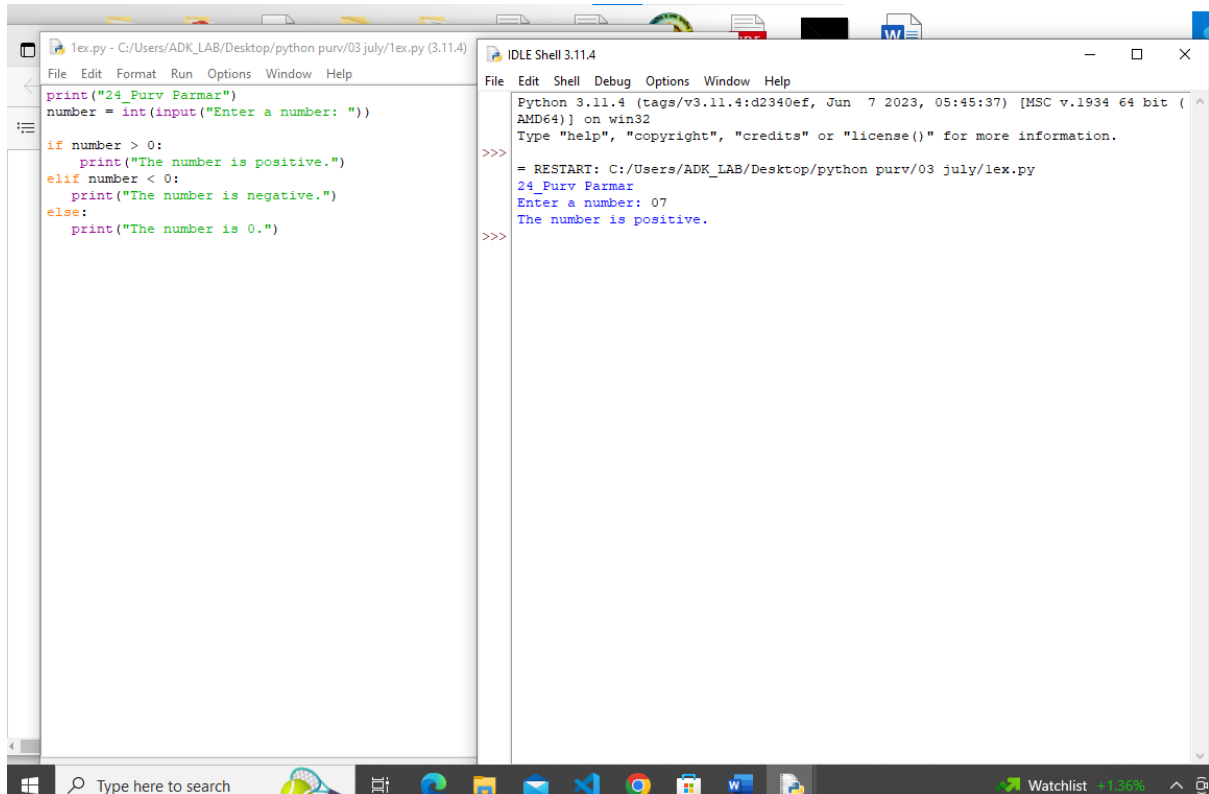
1. Question: Write a Python program to check if a number is even or odd without defining a function.

2. Question: Write a Python program to check if a number is positive or negative without defining a function.

The code shown in the editor window reads:

```
print("24_Purv Parmar")
number = int(input("Enter a number :"))
if number % 2 == 0:
    print("The number is even.")
else:
    print("The number is odd.")
```
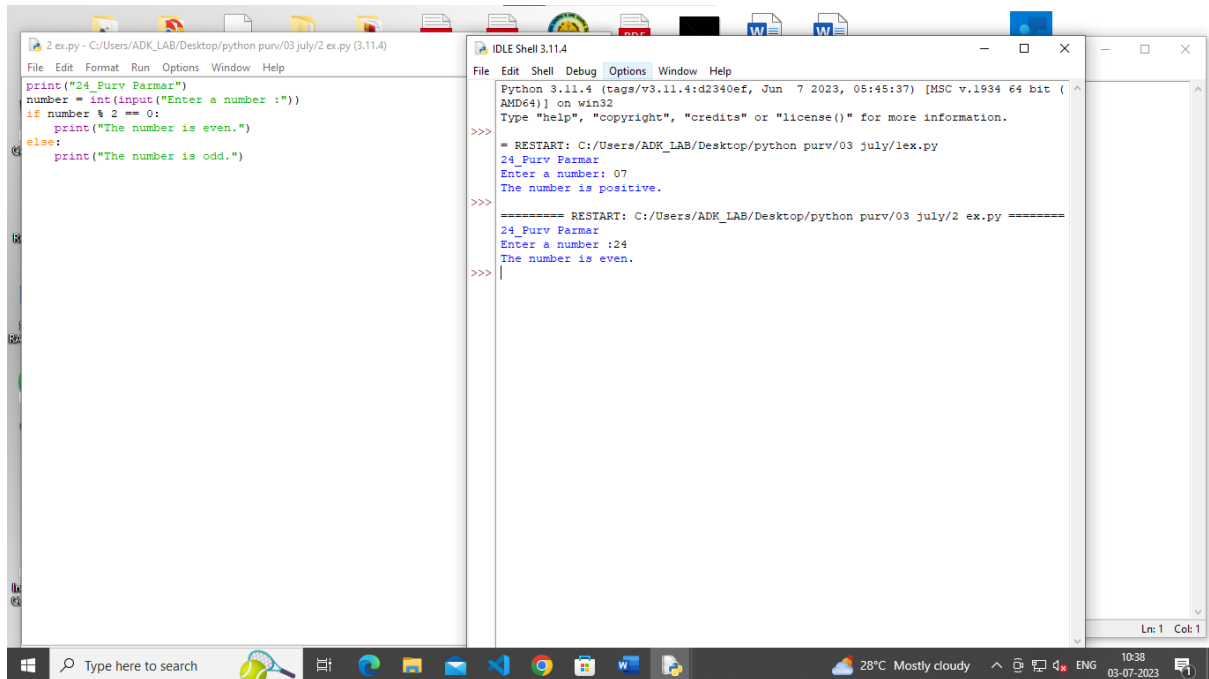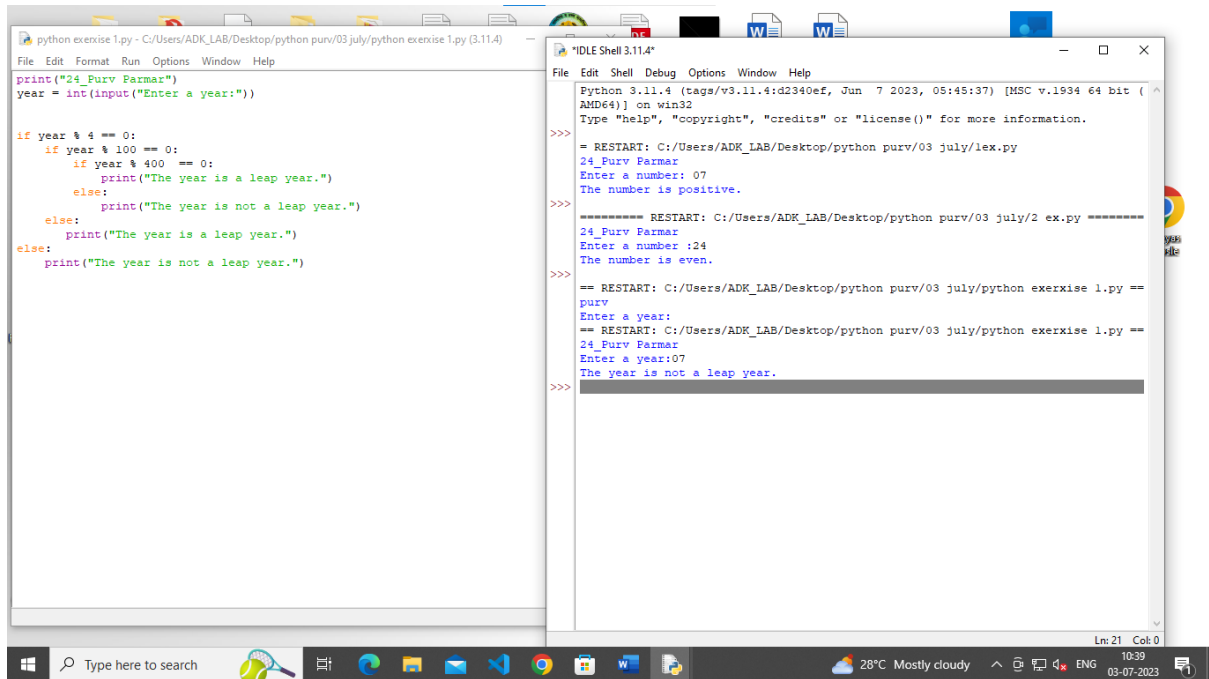
Shell output:

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.1934 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/lex.py
24_Purv Parmar
Enter a number: 07
The number is positive.
>>>
========= RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/2 ex.py =========
24_Purv Parmar
Enter a number :24
The number is even.
>>>
```

3. Question: Write a Python program to check if a year is a leap year without defining a function.


```python
print("24_Purv Parmar")
year = int(input("Enter a year:"))


if year % 4 == 0:
    if year % 100 == 0:
        if year % 400  == 0:
            print("The year is a leap year.")
        else:
            print("The year is not a leap year.")
    else:
        print("The year is a leap year.")
else:
    print("The year is not a leap year.")
```

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.1934 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
= RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/1ex.py
24_Purv Parmar
Enter a number: 07
The number is positive.

========= RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/2 ex.py =========
24_Purv Parmar
Enter a number :24
The number is even.

== RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/python exerxise 1.py ==
purv
Enter a year:
== RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/python exerxise 1.py ==
24_Purv Parmar
Enter a year:07
The year is not a leap year.
```
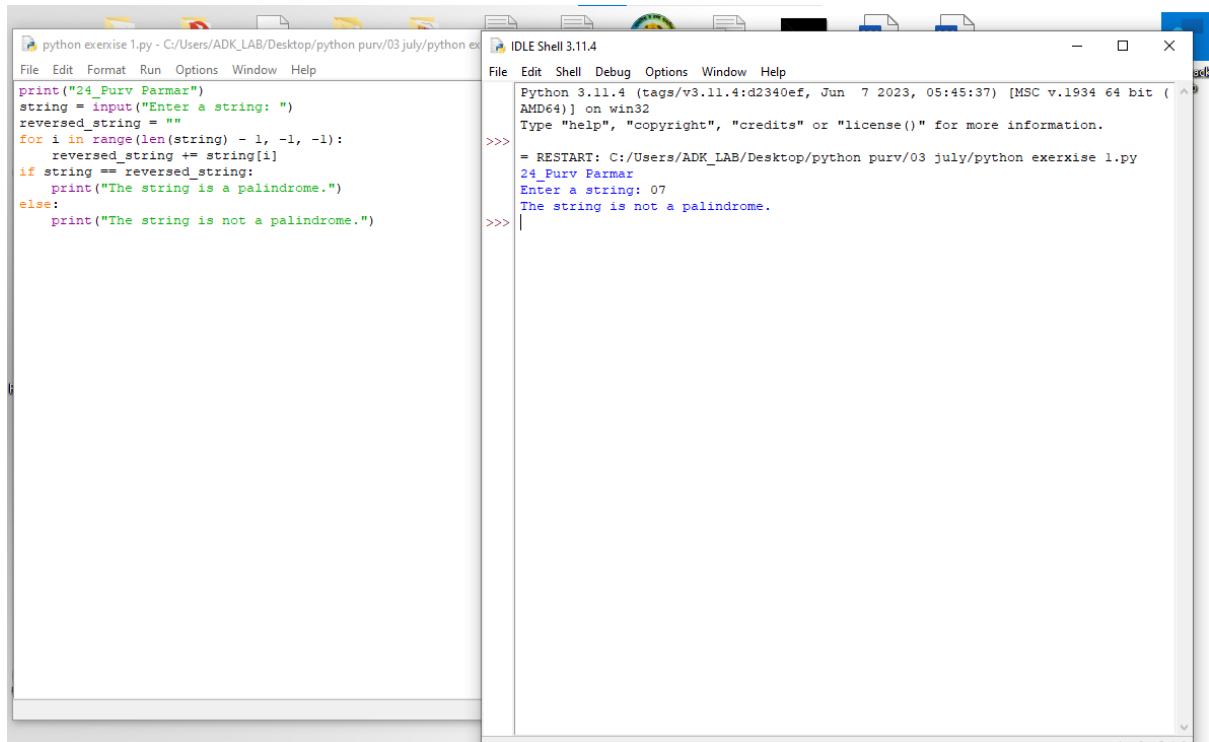
4. Question: Write a Python program to check if a string is a palindrome without defining a function.
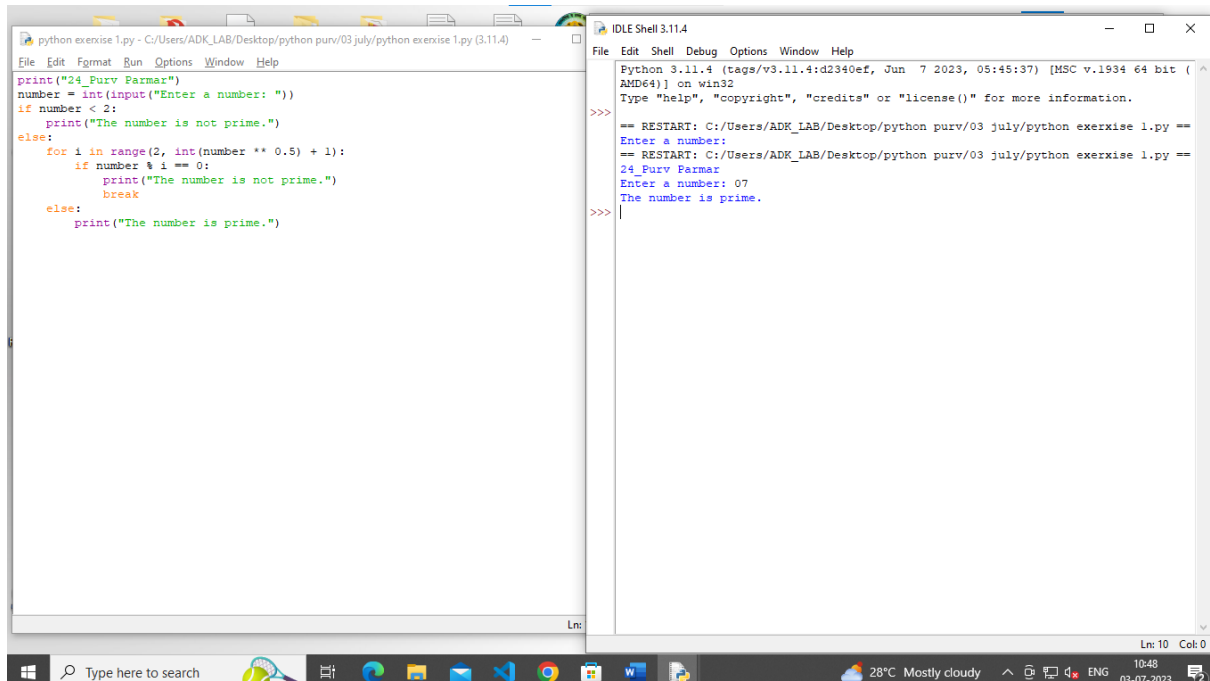
```
python exenxise 1.py - C:/Users/ADK_LAB/Desktop/python purv/03 july/python ex
File  Edit  Format  Run  Options  Window  Help
print("24_Purv Parmar")
string = input("Enter a string: ")
reversed_string = ""
for i in range(len(string) - 1, -1, -1):
    reversed_string += string[i]
if string == reversed_string:
    print("The string is a palindrome.")
else:
    print("The string is not a palindrome.")
```
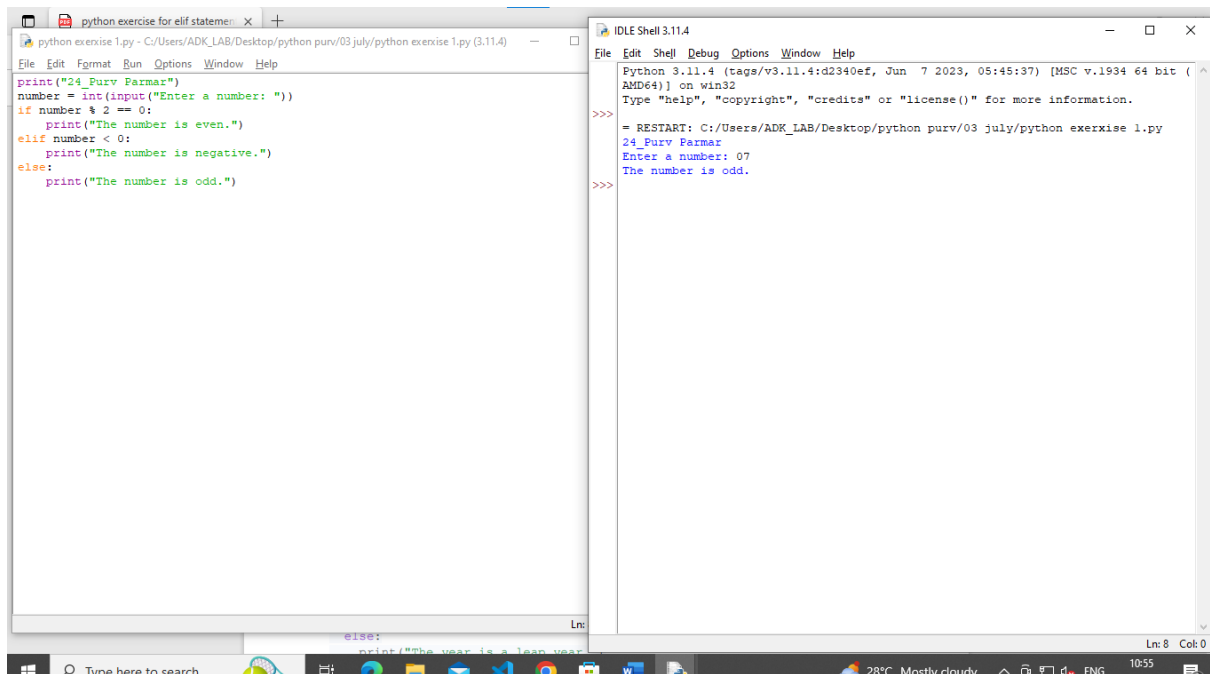
```
IDLE Shell 3.11.4                                                    —    □    ×
File  Edit  Shell  Debug  Options  Window  Help
    Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.1934 64 bit (
    AMD64)] on win32
    Type "help", "copyright", "credits" or "license()" for more information.
>>>
    = RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/python exerxise 1.py
    24_Purv Parmar
    Enter a string: 07
    The string is not a palindrome.
>>>
```

5. Question: Write a Python program to check if a number is prime without defining a function.


```python
print("24_Purv Parmar")
number = int(input("Enter a number: "))
if number < 2:
    print("The number is not prime.")
else:
    for i in range(2, int(number ** 0.5) + 1):
        if number % i == 0:
            print("The number is not prime.")
            break
    else:
        print("The number is prime.")
```

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.1934 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
== RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/python exerxise 1.py ==
Enter a number:
== RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/python exerxise 1.py ==
24_Purv Parmar
Enter a number: 07
The number is prime.
>>>
```

Python exercise for Elif statements

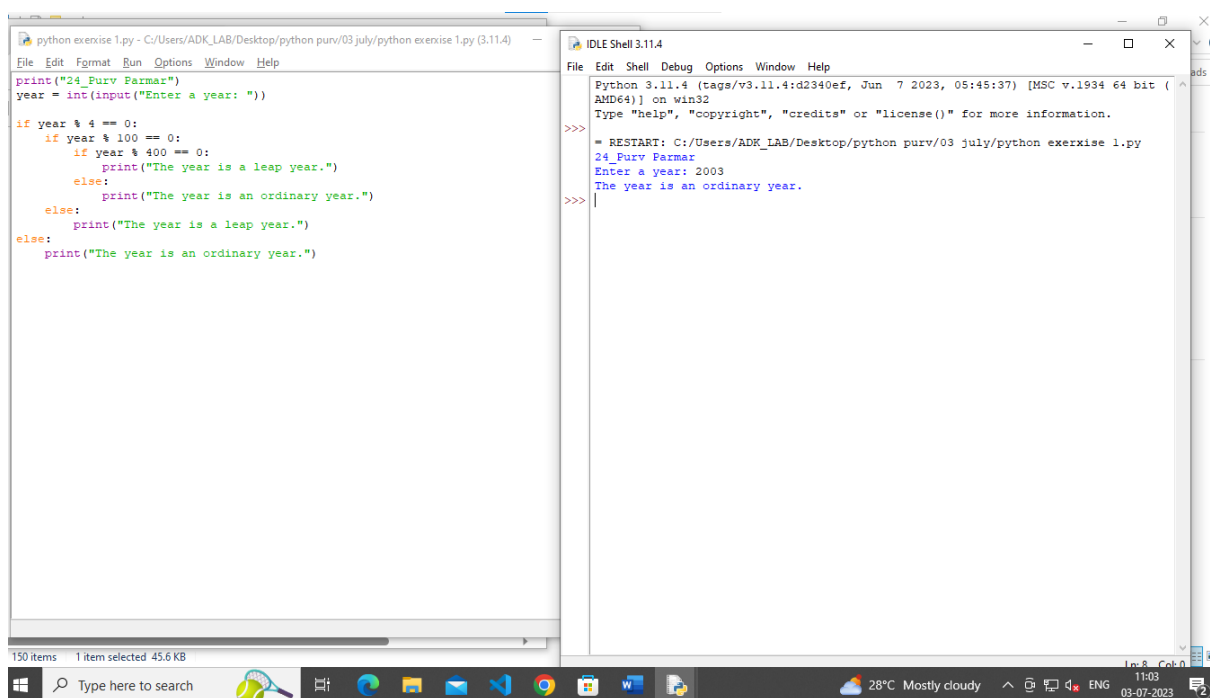1. Question: Write a Python program to check if a number is even, odd, or neither using elif statements.

2. Question: Write a Python program to check if a year is a leap year, ordinary year, or century using elif statements.


```python
print("24_Purv Parmar")
year = int(input("Enter a year: "))

if year % 4 == 0:
    if year % 100 == 0:
        if year % 400 == 0:
            print("The year is a leap year.")
        else:
            print("The year is an ordinary year.")
    else:
        print("The year is a leap year.")
else:
    print("The year is an ordinary year.")
```
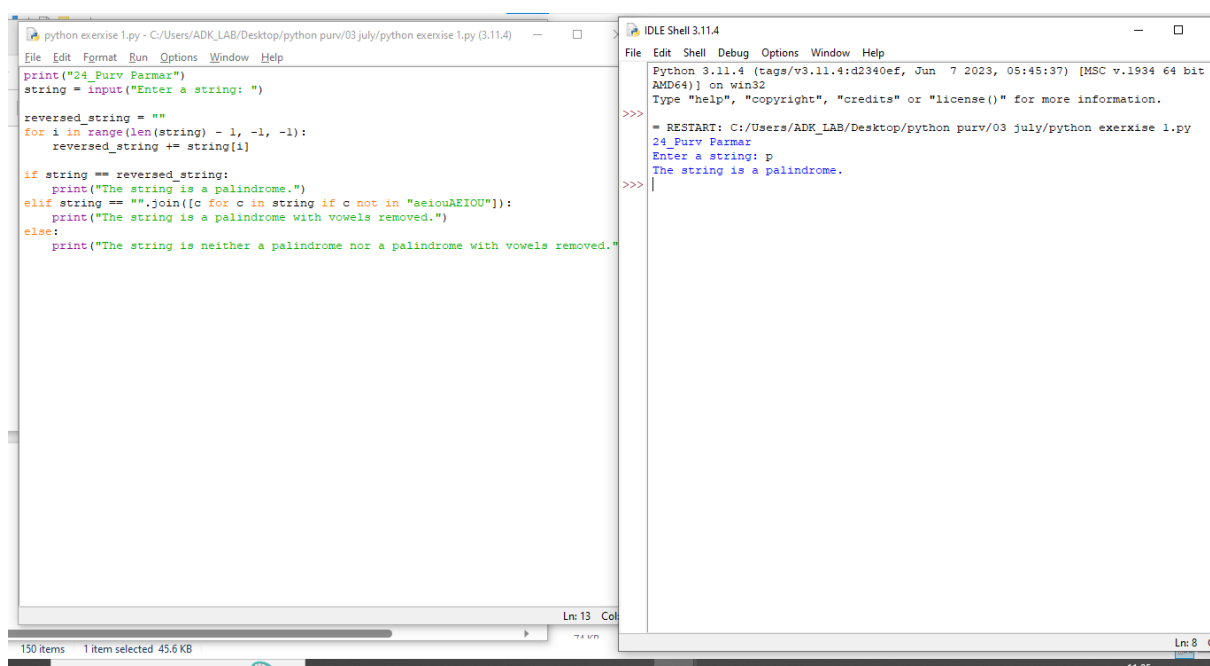
```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.1934 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/python exerxise 1.py
24_Purv Parmar
Enter a year: 2003
The year is an ordinary year.
>>>
```

3. Question: Write a Python program to check if a string is a palindrome, a palindrome with vowels removed, or neither using elif statements.
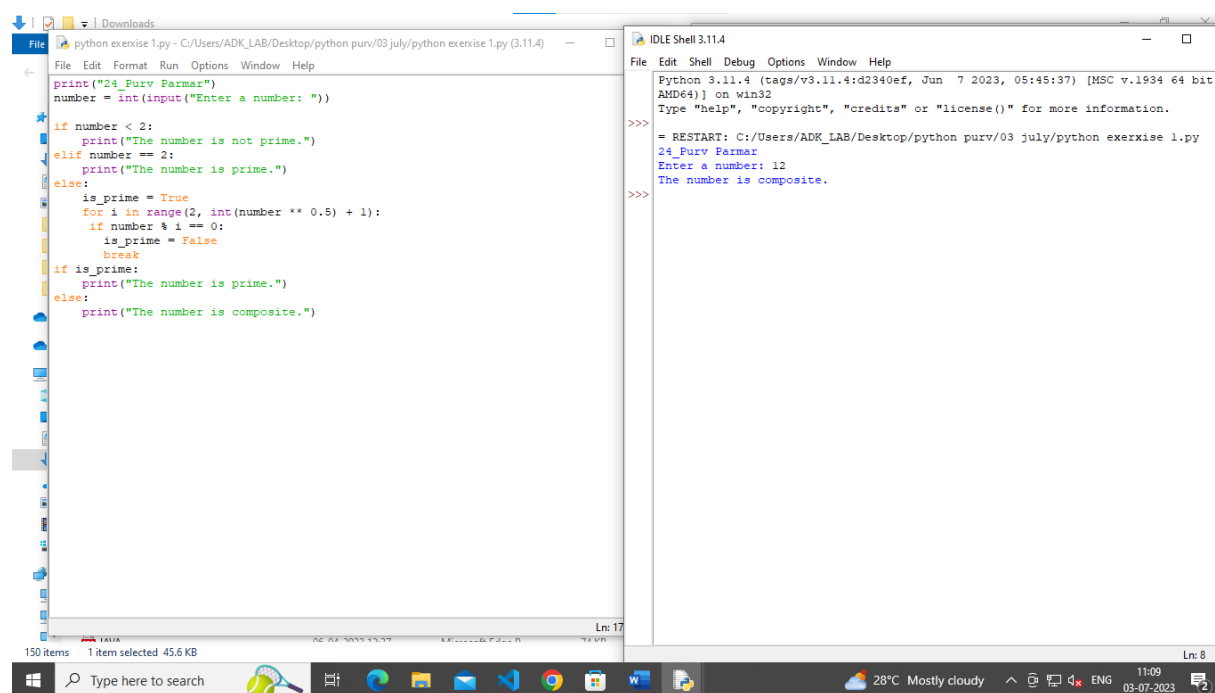
```python
print("24_Purv Parmar")
string = input("Enter a string: ")

reversed_string = ""
for i in range(len(string) - 1, -1, -1):
    reversed_string += string[i]

if string == reversed_string:
    print("The string is a palindrome.")
elif string == "".join([c for c in string if c not in "aeiouAEIOU"]):
    print("The string is a palindrome with vowels removed.")
else:
    print("The string is neither a palindrome nor a palindrome with vowels removed.")
```

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.1934 64 bit AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/python exerxise 1.py
24_Purv Parmar
Enter a string: p
The string is a palindrome.
>>>
```

4. Question: Write a Python program to check if a number is prime, composite, or neither using elif statements.


```python
print("24_Purv Parmar")
number = int(input("Enter a number: "))

if number < 2:
    print("The number is not prime.")
elif number == 2:
    print("The number is prime.")
else:
    is_prime = True
    for i in range(2, int(number ** 0.5) + 1):
        if number % i == 0:
            is_prime = False
            break
    if is_prime:
        print("The number is prime.")
    else:
        print("The number is composite.")
```
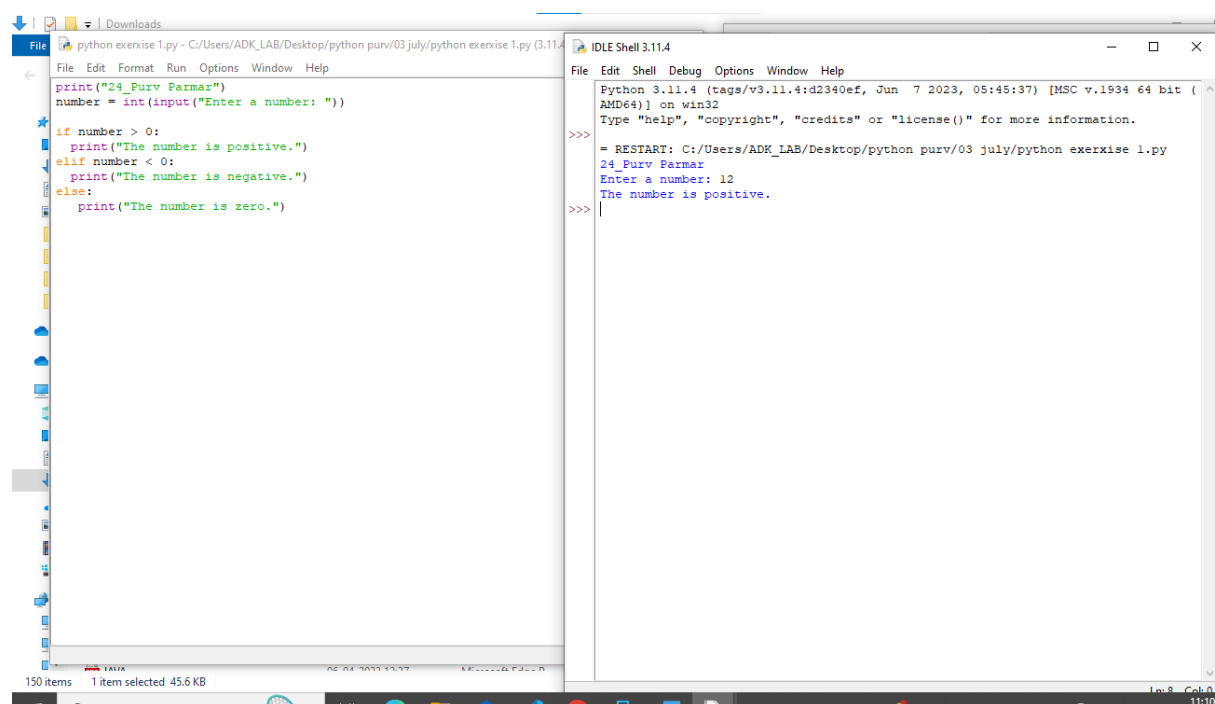
IDLE Shell 3.11.4

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.1934 64 bit
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/python exerxise 1.py
24_Purv Parmar
Enter a number: 12
The number is composite.
>>>
```

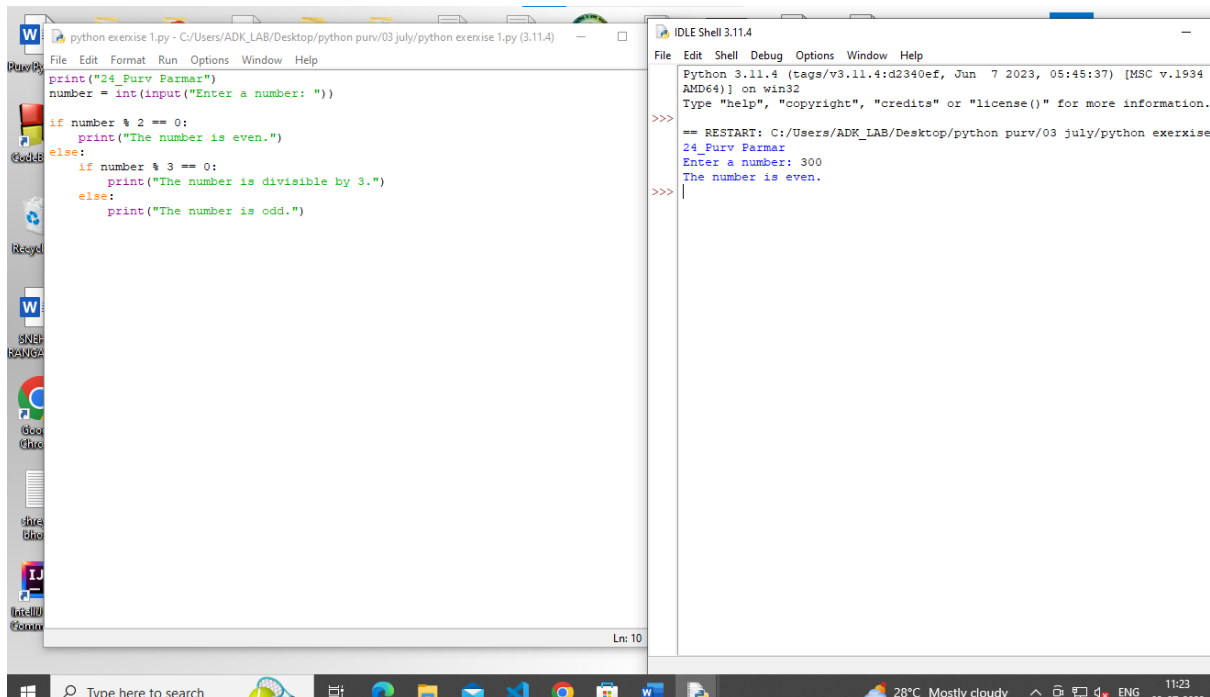5. Question: Write a Python program to check if a number is positive, negative, or zero using elif statements.


```python
print("24_Purv Parmar")
number = int(input("Enter a number: "))

if number > 0:
  print("The number is positive.")
elif number < 0:
  print("The number is negative.")
else:
    print("The number is zero.")
```

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.1934 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/python exerxise 1.py
24_Purv Parmar
Enter a number: 12
The number is positive.
>>>
```

1. Question: Write a Python program to check if a number is even, odd, or divisible by 3 using nested if-else statements.


```python
print("24_Purv Parmar")
number = int(input("Enter a number: "))

if number % 2 == 0:
    print("The number is even.")
else:
    if number % 3 == 0:
        print("The number is divisible by 3.")
    else:
        print("The number is odd.")
```
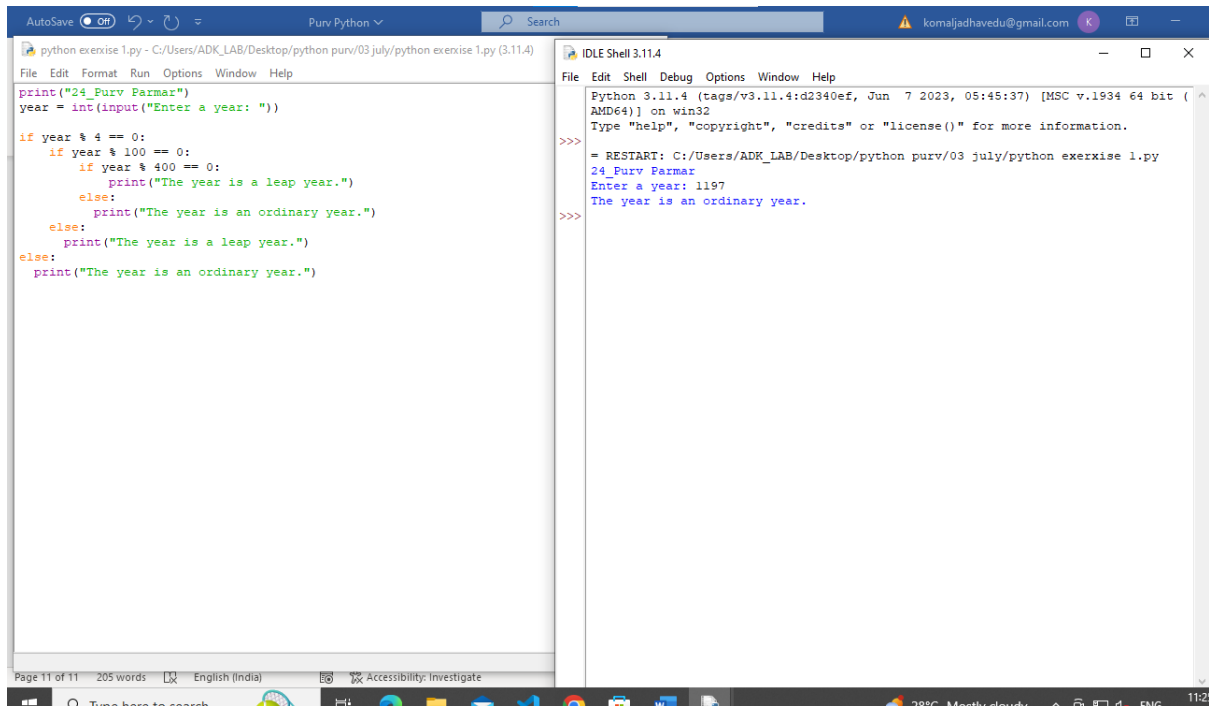
```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.1934 AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
== RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/python exerxise
24_Purv Parmar
Enter a number: 300
The number is even.
>>>
```

2. Question: Write a Python program to check if a year is a leap year, ordinary year, or century using nested if-else statements.


```python
print("24_Purv Parmar")
year = int(input("Enter a year: "))

if year % 4 == 0:
    if year % 100 == 0:
        if year % 400 == 0:
            print("The year is a leap year.")
        else:
            print("The year is an ordinary year.")
    else:
        print("The year is a leap year.")
else:
    print("The year is an ordinary year.")
```
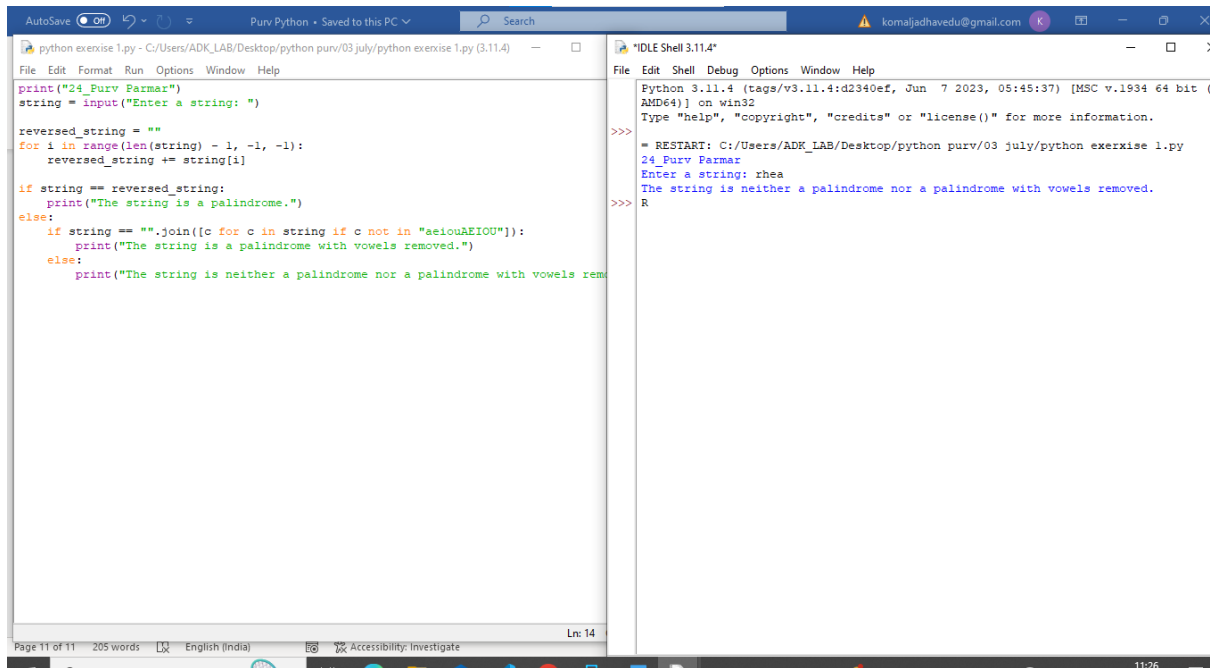
IDLE Shell output:
```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.1934 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/python exerxise 1.py
24_Purv Parmar
Enter a year: 1197
The year is an ordinary year.
>>>
```

3. Question: Write a Python program to check if a string is a palindrome, a palindrome with vowels removed, or neither using nested if-else statements.

4. Question: Write a Python program to check if a number is prime, composite, or neither using nested if-else statements


```python
print("24_Purv Parmar")
number = int(input("Enter a number: "))

if number < 2:
    print("The number is not prime.")
elif number == 2:
    print("The number is prime.")
else:
    is_prime = True
    for i in range(2, int(number ** 0.5) + 1):
        if number % i == 0:
            is_prime = False
            break
    if is_prime:
        print("The number is prime.")
    else:
        nested_if_else = True
        if number % 3 == 0:
            print("The number is a composite number that is divisible by 3.")
        else:
            print("The number is a composite number that is not divisible by 3.")
```
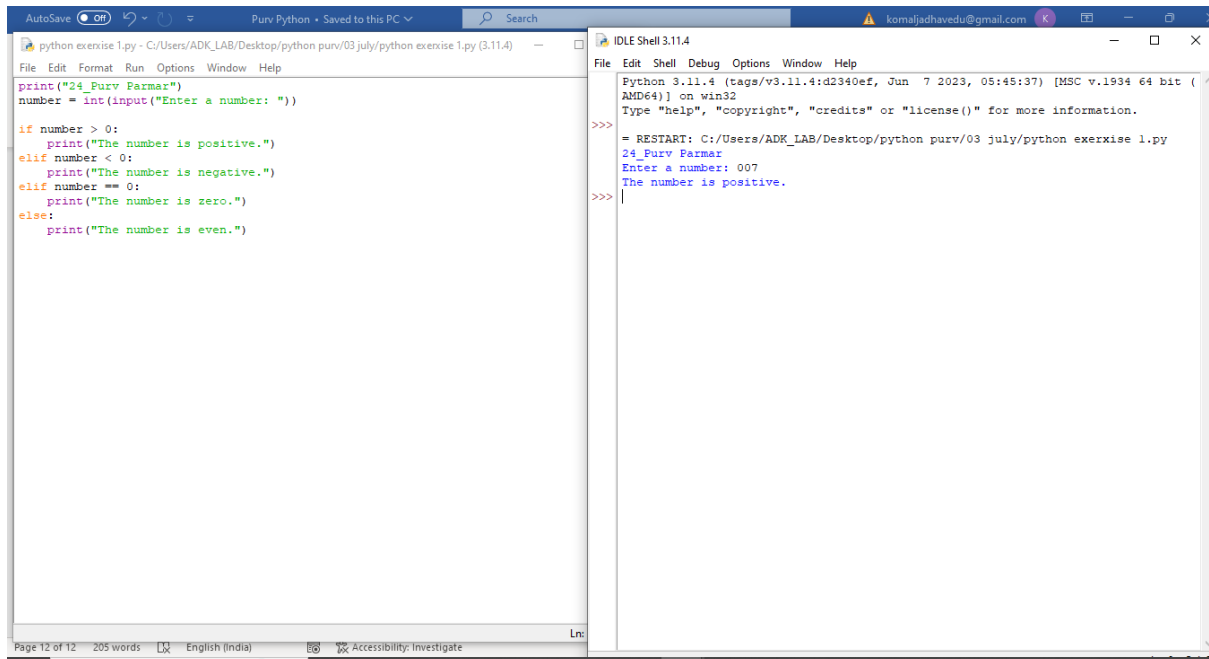
IDLE Shell 3.11.4

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.1934 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/python exerxise 1.py
24_Purv Parmar
Enter a number: 12
The number is a composite number that is divisible by 3.
>>>
```

5. Question: Write a Python program to check if a number is positive, negative, zero, or even using nested if-else statements.


```python
print("24_Purv Parmar")
number = int(input("Enter a number: "))

if number > 0:
    print("The number is positive.")
elif number < 0:
    print("The number is negative.")
elif number == 0:
    print("The number is zero.")
else:
    print("The number is even.")
```

IDLE Shell 3.11.4

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.1934 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

= RESTART: C:/Users/ADK_LAB/Desktop/python purv/03 july/python exerxise 1.py
24_Purv Parmar
Enter a number: 007
The number is positive.
```