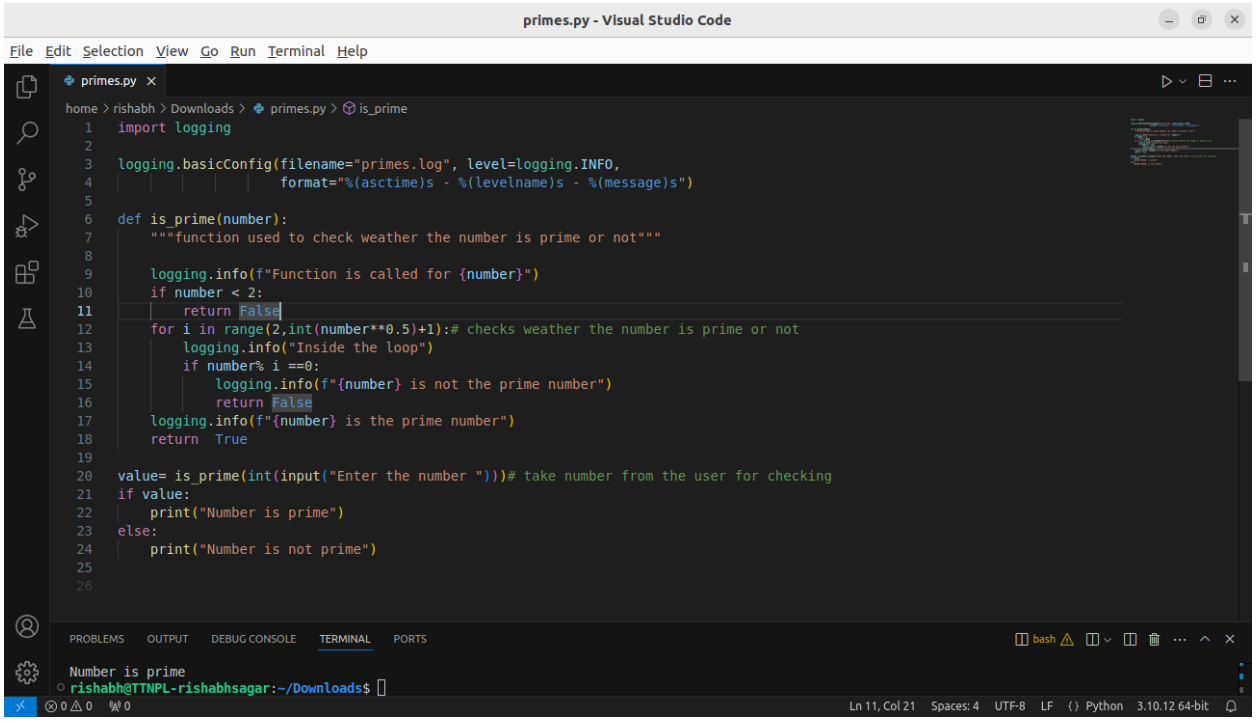
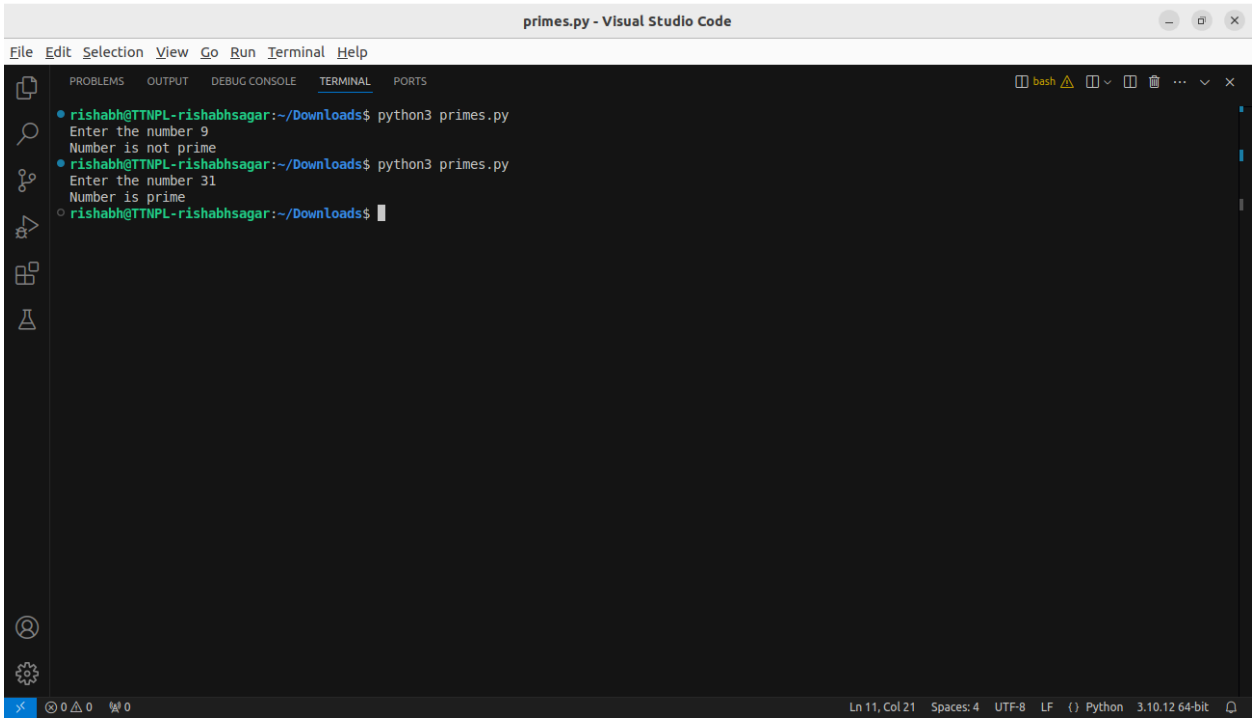
Introduction to Python

Q1)Write a Python script to test if a number is prime or not? - The Script name: primes.py - Add a functions is_prime() which return boolean True or False - Program should accept a number from console

Ans.





Open | primes.log ~/Downloads | Save

```
2025-02-03 17:15:31,682 - INFO - Function is called for 9
2025-02-03 17:15:31,682 - INFO - Inside the loop
2025-02-03 17:15:31,682 - INFO - Inside the loop
2025-02-03 17:15:31,683 - INFO - 9 is not the prime number
2025-02-03 17:15:37,742 - INFO - Function is called for 31
2025-02-03 17:15:37,743 - INFO - Inside the loop
2025-02-03 17:15:37,743 - INFO - Inside the loop
2025-02-03 17:15:37,743 - INFO - Inside the loop
2025-02-03 17:15:37,743 - INFO - Inside the loop
2025-02-03 17:15:37,743 - INFO - 31 is the prime number
```

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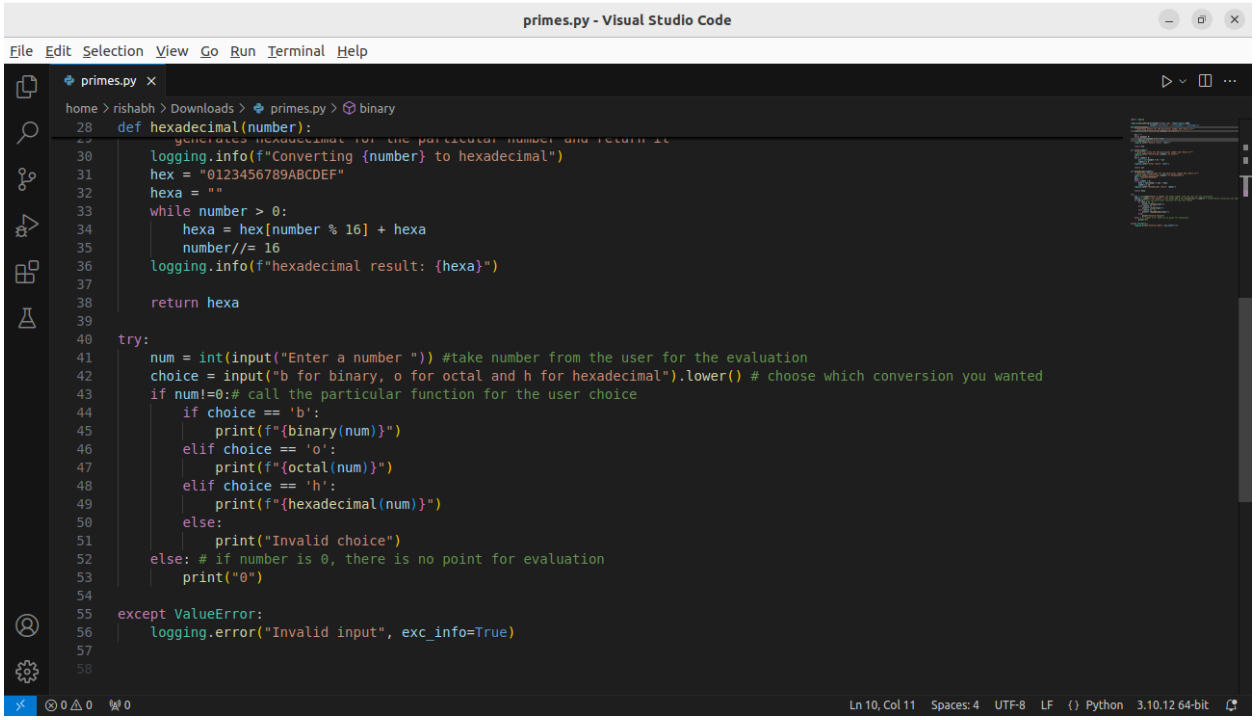
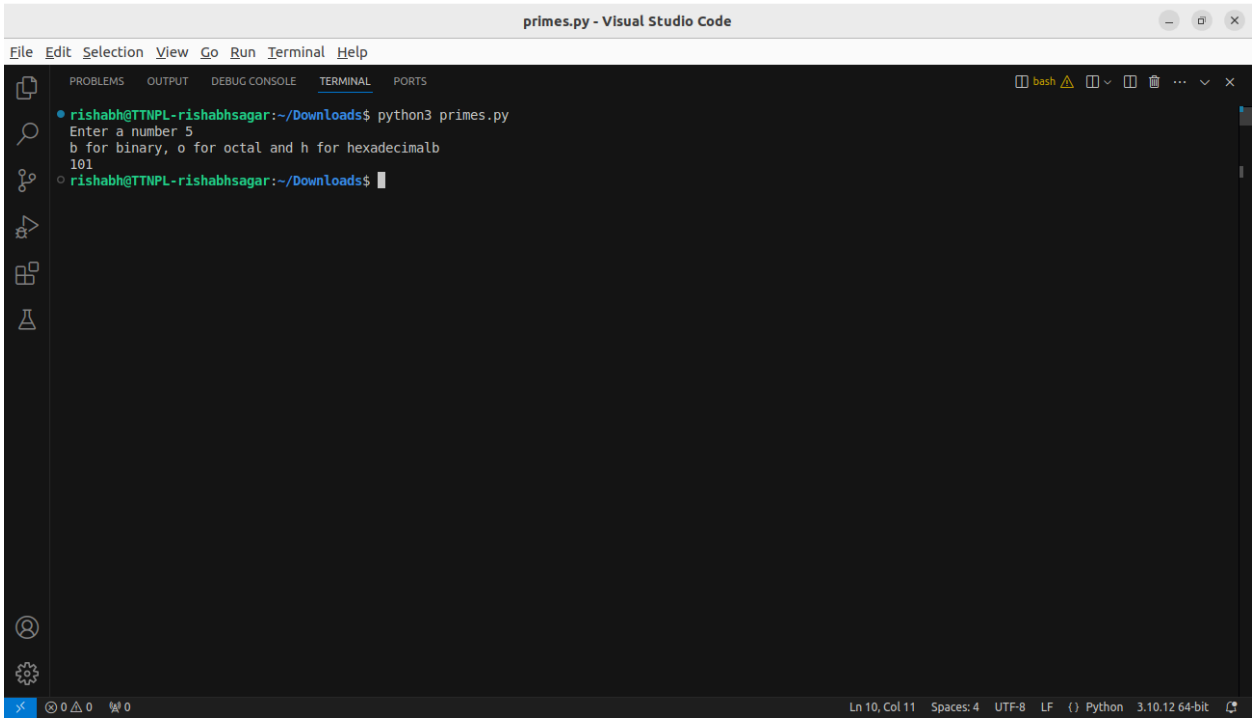
Q2)Write a code to print binary, octal or hexa-decimal presentation of a number. Do not use any third party library.

Ans.


primes.py - Visual Studio Code
File Edit Selection View Go Run Terminal Help
primes.py
home > rishabh > Downloads > primes.py > binary
def hexadecimal(number):
logging.info(f"Converting {number} to hexadecimal")
hex = "0123456789ABCDEF"
hexa = ""
while number > 0:
hexa = hex[number % 16] + hexa
number//= 16
logging.info(f"hexadecimal result: {hexa}")
return hexa
try:
num = int(input("Enter a number ")) #take number from the user for the evaluation
choice = input("b for binary, o for octal and h for hexadecimal").lower() # choose which conversion you wanted
if num!=0:# call the particular function for the user choice
if choice == 'b':
print(f"{binary(num)}")
elif choice == 'o':
print(f"{octal(num)}")
elif choice == 'h':
print(f"{hexadecimal(num)}")
else:
print("Invalid choice")
else: # if number is 0, there is no point for evaluation
print("0")
except ValueError:
logging.error("Invalid input", exc_info=True)
Ln 10, Col 11 Spaces: 4 UTF-8 LF Python 3.10.12 64-bit


primes.py - Visual Studio Code
File Edit Selection View Go Run Terminal Help
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
bash
rishabh@TTNPL-rishabhsagar:~/Downloads$ python3 primes.py
Enter a number 5
b for binary, o for octal and h for hexadecimalb
101
rishabh@TTNPL-rishabhsagar:~/Downloads$
Ln 10, Col 11 Spaces: 4 UTF-8 LF Python 3.10.12 64-bit


Open
primes.log
~/Downloads
Save
1 2025-02-03 17:01:43,450 - INFO - Converting 5 to binary
2 2025-02-03 17:01:43,450 - INFO - Binary result: 101
Plain Text
Tab Width: 8
Ln 2, Col 52
INS