

Question 1 - Primes

Write a function to determine whether a given number is prime or not (divisible only by itself and 1). Use the Wikipedia definition of a prime numbers as a reference.

Solution: A number which is divisible by 1 and itself is called prime number

Function is_prime(number)

```
def is_prime(p):  
    if p > 1:  
        n = p // 2  
        for i in range(2, n + 1):  
            if p % i == 0:  
                return False  
        return True  
    else:  
        return False
```

number = 1011013

```
#Test data: number = 1011013, number = 10110133, number = 101101331  
if is_prime(number):  
    print str(number) + " is a prime number"  
else:  
    print str(number) + " is not a prime number"
```

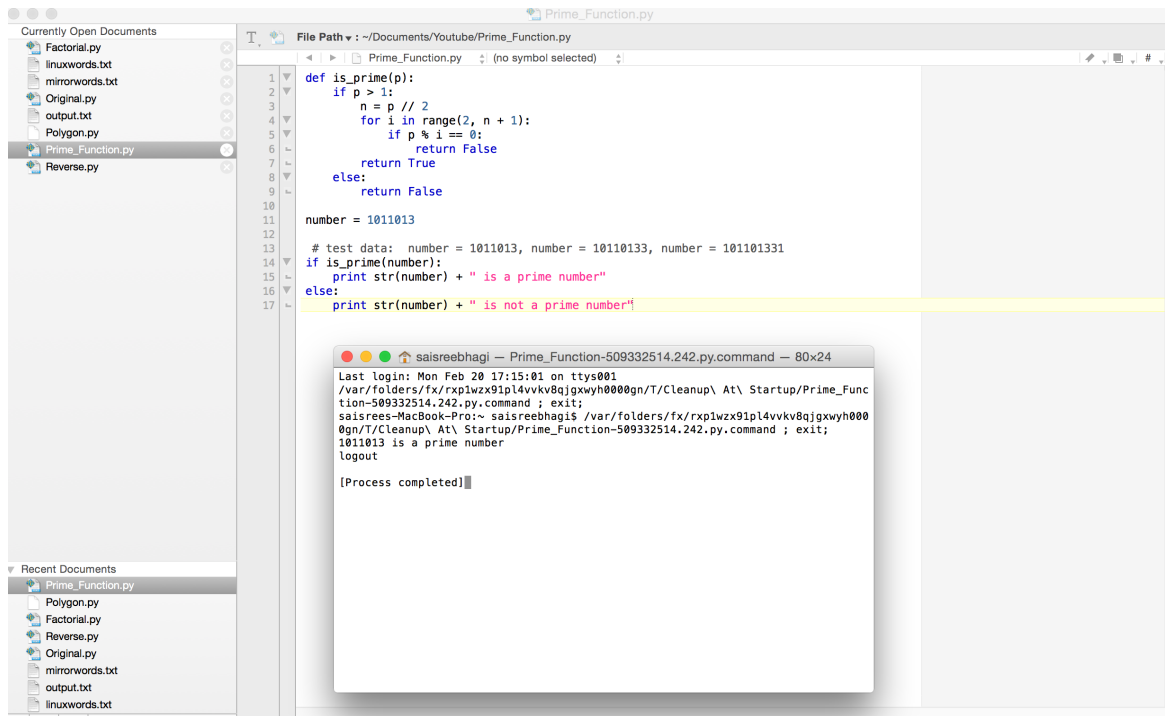
Reference:

https://en.wikipedia.org/wiki/Prime_number

Output

Screen Shots:

Case 1: Testing above function for a case when given number is prime



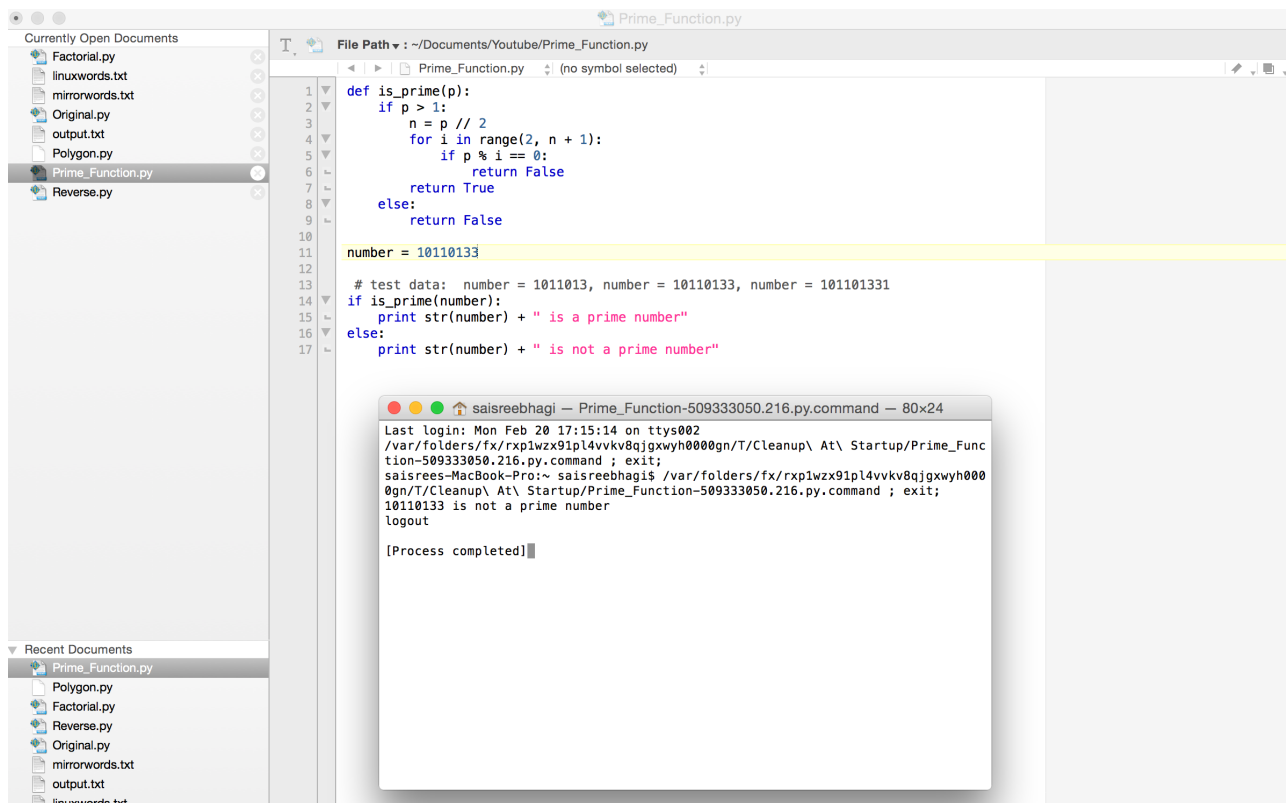
```
def is_prime(p):
    if p > 1:
        n = p // 2
        for i in range(2, n + 1):
            if p % i == 0:
                return False
        return True
    else:
        return False

number = 1011013

# test data: number = 1011013, number = 10110133, number = 101101331
if is_prime(number):
    print str(number) + " is a prime number"
else:
    print str(number) + " is not a prime number"
```

```
Last login: Mon Feb 20 17:15:01 on ttys001
/var/folders/fx/rxp1wzx91pl4vvkv8qjgxyh0000gn/T/Cleanup\ At\ Startup/Prime_Func
tion-509332514.242.py.command ; exit;
saisrees-MacBook-Pro:~ saisreebhagi$ /var/folders/fx/rxp1wzx91pl4vvkv8qjgxyh000
0gn/T/Cleanup\ At\ Startup/Prime_Function-509332514.242.py.command ; exit;
1011013 is a prime number
logout
[Process completed]
```

Case 2: Testing above function for a case when given number is not prime



```
def is_prime(p):
    if p > 1:
        n = p // 2
        for i in range(2, n + 1):
            if p % i == 0:
                return False
        return True
    else:
        return False

number = 10110133

# test data: number = 1011013, number = 10110133, number = 101101331
if is_prime(number):
    print str(number) + " is a prime number"
else:
    print str(number) + " is not a prime number"
```

```
Last login: Mon Feb 20 17:15:14 on ttys002
/var/folders/fx/rxp1wzx91pl4vvkv8qjgxyh0000gn/T/Cleanup\ At\ Startup/Prime_Func
tion-509333050.216.py.command ; exit;
saisrees-MacBook-Pro:~ saisreebhagi$ /var/folders/fx/rxp1wzx91pl4vvkv8qjgxyh000
0gn/T/Cleanup\ At\ Startup/Prime_Function-509333050.216.py.command ; exit;
10110133 is not a prime number
logout
[Process completed]
```

