Python Program to Check Prime Number

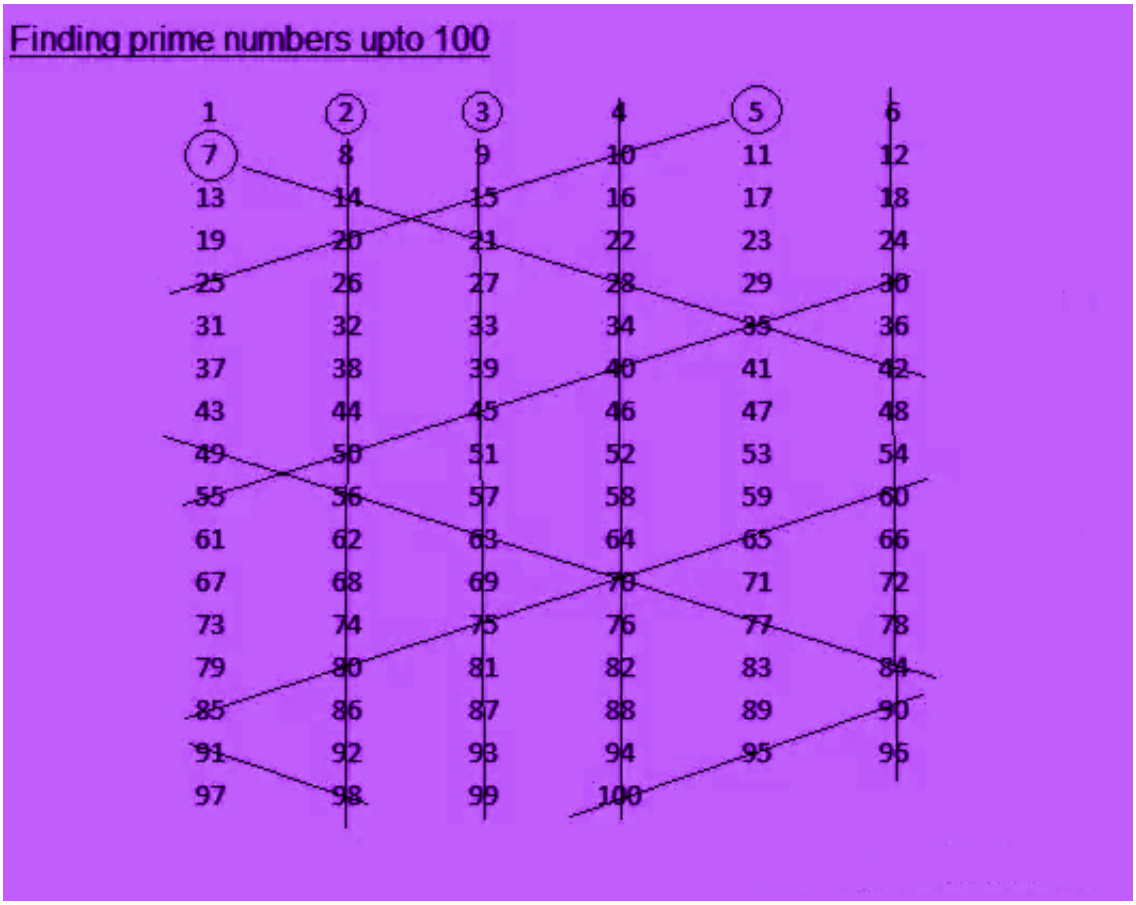

Image Resource: https://byjus.com/maths/how-to-find-prime-numbers/

In [ ]:
```
# WAP to check prime number by denying its factors. -- Code Test.
num = int(input("Enter a number:"))
if num <= 1:
  print(num, "is not a prime number.")
elif num in [2, 3, 5, 7] or num % 2 == 0 or num % 3 == 0 or num % 5 == 0 or
  print(num, "is not a prime number.")
else:
  print(num, "is a prime number.")
```

```
Enter a number:101
101 is a prime number.
```

In [ ]:
```python
# WAP to check prime number by counting its factors. -- Code Test.
num = int(input("Enter a number:"))
if num > 1 :
  fac = 1 # A factor that is the number itself.
  for i in range(1, num): # Divsors from 1 to num-1.
    if num % i == 0:
      fac += 1
  if fac > 2 : # The number has more than two factors(including 1 and itself
    print(num, "is not a prime number.")
  else:
    print(num, "is a prime number.")
else: # Numbers that <= 1 are excluded.
  print(num, "is not a prime number.")
```

```
Enter a number:36
36 is not a prime number.
```

In [ ]:
```python
# WAP to check run time of prime number program. -- Run Time Test.
import time
num = int(input("Enter a number:"))
start = time.time()

if num > 1 :
  fac = 1 # A factor that is the number itself.
  for i in range(1, num): # Divsors from 1 to num-1.
    if num % i == 0:
      fac += 1
  if fac > 2 : # The number has more than two factors(including 1 and itself
    print(num, "is not a prime number.")
  else:
    print(num, "is a prime number.")
else: # Numbers that <= 1 are excluded.
  print(num, "is not a prime number.")

end = time.time()
run_time = end - start
print("It took ", run_time, "seconds to run this code.")
```

```
Enter a number:101
101 is a prime number.
It took  0.00033473968505859375 seconds to run this code.
```

In [ ]:

```python
# WAP to check run time of prime number function program.
import time
num1 = int(input("Enter a number 1:"))
num2 = int(input("Enter a number 2:"))
num3 = int(input("Enter a number 3:"))
start = time.time()

def isPrime(num):
  if num > 1 :
    fac = 1 # A factor that is the number itself.
    for i in range(1, num): # Divsors from 1 to num-1.
      if num % i == 0:
        fac += 1
    if fac > 2 : # The number has more than two factors(including 1 and itse
      print(num, "is not a prime number.")
    else:
      print(num, "is a prime number.")
  else: # Numbers that <= 1 are excluded.
    print(num, "is not a prime number.")
  return

isPrime(num1)
isPrime(num2)
isPrime(num3)

end = time.time()
run_time = end - start
print("It took ", run_time, "seconds to run this code.")
```

```
Enter a number 1:101
Enter a number 2:467
Enter a number 3:985
101 is a prime number.
467 is a prime number.
985 is not a prime number.
It took  0.0025157928466796875 seconds to run this code.
```

In [ ]:

```
# WAP to check run time of prime number program by counting its factors.
num1 = int(input("Enter a number 1:"))
num2 = int(input("Enter a number 2:"))
num3 = int(input("Enter a number 3:"))
start = time.time()

if num1 > 1 :
  fac = 1 # A factor that is the number itself.
  for i in range(1, num1): # Divsors from 1 to num-1.
    if num1 % i == 0:
      fac += 1
  if fac > 2 : # The number has more than two factors(including 1 and itself
    print(num1, "is not a prime number.")
  else:
    print(num1, "is a prime number.")
else: # Numbers that <= 1 are excluded.
  print(num1, "is not a prime number.")

if num2 > 1 :
  fac = 1 # A factor that is the number itself.
  for i in range(1, num2): # Divsors from 1 to num-1.
    if num2 % i == 0:
      fac += 1
  if fac > 2 : # The number has more than two factors(including 1 and itself
    print(num2, "is not a prime number.")
  else:
    print(num2, "is a prime number.")
else: # Numbers that <= 1 are excluded.
  print(num2, "is not a prime number.")

if num3 > 1 :
  fac = 1 # A factor that is the number itself.
  for i in range(1, num3): # Divsors from 1 to num-1.
    if num3 % i == 0:
      fac += 1
  if fac > 2 : # The number has more than two factors(including 1 and itself
    print(num3, "is not a prime number.")
  else:
    print(num3, "is a prime number.")
else: # Numbers that <= 1 are excluded.
  print(num3, "is not a prime number.")

end = time.time()
run_time = end - start
print("It took ", run_time, "seconds to run this code.")
```

```
Enter a number 1:101
Enter a number 2:467
Enter a number 3:985
101 is a prime number.
467 is a prime number.
985 is not a prime number.
It took  0.0026574134826660156 seconds to run this code.
```

In [ ]:
```python
# WAP to check the run time of prime number programe. -- Run Time Test.
num = int(input("Enter a number:"))
start = time.time()

if num <= 1:
  print(num, "is not a prime number.")
elif num in [2, 3, 5, 7] or num % 2 == 0 or num % 3 == 0 or num % 5 == 0 or
  print(num, "is not a prime number.")
else:
  print(num, "is a prime number.")

end = time.time()
run_time = end - start
print("It took ", run_time, "seconds to run this code.")
```

```
Enter a number:101
101 is a prime number.
It took  0.0011415481567382812 seconds to run this code.
```

In [ ]:
```python
# WAP to check run time of prime number function program.
import time
num1 = int(input("Enter a number 1:"))
num2 = int(input("Enter a number 2:"))
num3 = int(input("Enter a number 3:"))
start = time.time()

def isPrime(num):
  if num <= 1:
    print(num, "is not a prime number.")
  elif num in [2, 3, 5, 7] or num % 2 == 0 or num % 3 == 0 or num % 5 == 0 o
    print(num, "is not a prime number.")
  else:
    print(num, "is a prime number.")
  return

isPrime(num1)
isPrime(num2)
isPrime(num3)

end = time.time()
run_time = end - start
print("It took ", run_time, "seconds to run this code.")
```

```
Enter a number 1:101
Enter a number 2:467
Enter a number 3:985
101 is a prime number.
467 is a prime number.
985 is not a prime number.
It took  0.0009999275207519531 seconds to run this code.
```

In [ ]:

```python
# WAP to check run time of prime number function program.
import time
num1 = int(input("Enter a number 1:"))
num2 = int(input("Enter a number 2:"))
num3 = int(input("Enter a number 3:"))
start = time.time()

if num1 <= 1:
  print(num1, "is not a prime number.")
elif num in [2, 3, 5, 7] or num1 % 2 == 0 or num1 % 3 == 0 or num1 % 5 == 0
  print(num1, "is not a prime number.")
else:
  print(num1, "is a prime number.")

if num2 <= 1:
  print(num2, "is not a prime number.")
elif num2 in [2, 3, 5, 7] or num2 % 2 == 0 or num2 % 3 == 0 or num2 % 5 == 0
  print(num2, "is not a prime number.")
else:
  print(num2, "is a prime number.")

if num3 <= 1:
  print(num3, "is not a prime number.")
elif num in [2, 3, 5, 7] or num3 % 2 == 0 or num3 % 3 == 0 or num3 % 5 == 0
  print(num3, "is not a prime number.")
else:
  print(num3, "is a prime number.")

end = time.time()
run_time = end - start
print("It took ", run_time, "seconds to run this code.")
```

```
Enter a number 1:101
Enter a number 2:467
Enter a number 3:985
101 is a prime number.
467 is a prime number.
985 is not a prime number.
It took  0.00212860107421875 seconds to run this code.
```