

Program 1

Python program to check if the input number is prime or not

```
num = 407
```

```
# take input from the user
```

```
# num = int(input("Enter a number: "))
```

```
# prime numbers are greater than 1
```

```
if num > 1:
```

```
    # check for factors
```

```
    for i in range(2,num):
```

```
        if (num % i) == 0:
```

```
            print(num,"is not a prime number")
```

```
            print(i,"times",num//i,"is",num)
```

```
            break
```

```
    else:
```

```
        Print(num,"is a prime number");
```

```
# if input number is less than
```

```
# or equal to 1, it is not prime
```

```
else:
```

```
    Print(num,"is not a prime number")
```

Program 2

```
from time import localtime
```

```
activities = {8: 'Sleeping',  
              9: 'Commuting',  
              17: 'Working',  
              18: 'Commuting',  
              20: 'Eating',  
              22: 'Resting' }
```

```
time_now = localtime()
```

```
hour = time__now.tm__hour
```

```
for activity_time in sorted(activities.keys()):
```

```
    if hour < activity_time:
```

```
        print activities[activity_time]
```

```
        break
```

```
else:
```

```
print 'Unknown, AFK or sleeping!'
```

Program 3

```
class BankAccount(object):
def __init__(self, initial_balance=0):
self.balance = initial_balance
def deposit(self, amount):
self.balance += amount
def withdraw(self, amount):
self.balance -= amount
def overdrawn(self):
return self.balance < 0
my_account = BankAccount(15);
my_account.withdraw(5)
print my-account.balance
```

Program 4

```
# Python program to display all the prime numbers within an interval

# change the values of lower and upper for a different result
lower = 900
upper = 1000

# uncomment the following lines to take input from the user
#lower = int(input("Enter lower range: "))
#upper = int(input("Enter upper range: "))

print("Prime numbers between",lower,"and",upper,"are:")

for num in range(lower,upper + 1):
    # prime numbers are greater than 1
    if num > 1:
        for i in range(2,num):
            if (num % i) == 0:
                break
        else:
            print(num);
Return 0;
```

Program 5

```
lower=int(input("Enter lower range limit:"))
upper=int(input("Enter upper range limit:"))
n=int(input("Enter the number to be divided by:"))
for i in range(lower,upper+1):
    if(i%n==0):
        print(i)
Else:
    Print(p)
```

Program 6

```
n=int(input("Enter a number: "))
for i in range(0,n):
    for j in range(0,n):
        if(i==j):
            print("1",sep=" ",end=" ")
        else:
            print("0",sep=" ",end=" ")
    print()
```

Program 7

```
import random

guesses_made = 0

name = raw_input('Hello! What is your name?\n')

number = random.randint(1, 20)
print 'Well, {0}, I am thinking of a number between 1 and 20.'.format(name)

while guesses_made < 6:

    guess = int(raw_input('Take a guess: '))

    guesses_made += 1

    if guess < number:
        print 'Your guess is too low.'

    if guess > number:
```

```

        print 'Your guess is too high.'

    if guess == number:
        break

if guess == number:
    print 'Good job, {0}! You guessed my number in {1}
    guesses!'.format(name, guesses_made)
else:
    print 'Nope. The number I was thinking of was {0}'.format(number)

```

Program 8

```

# Parent class created
class Parent:
    parentname = ""
    chilbname = ""

    def show_parent(self):
        print(self.parentname)

# Son class inherits Parent class
class Son(Parent):
    def show_child(self):
        print(self.chilbname)

# Daughter class inherits Parent class
class Daughter(Parent):
    def show_child(self):
        print(self.chilbname)

s1 = Son() # Object of Son class
s1.parentname = "Mark"
s1.chilbname = "John"
s1.show_parent()
s1.show_child()

d1 = Daughter() # Object of Daughter class

```

```
d1.childname = "Riya"  
d1.parentname = "Samule"  
d1.show_parent()  
d1.show_child()
```

Program 9

```
# Python program to check if the number provided by the user is  
an Armstrong number or not
```

```
# take input from the user
```

```
num = int(input("Enter a number: "))
```

```
# initialize sum
```

```
sum = 0
```

```
# find the sum of the cube of each digit
```

```
temp = num
```

```
while temp > 0:
```

```
    digit = temp % 10
```

```
    sum += digit ** 3
```

```
    temp //= 10
```

```
# display the result
```

```
if num == sum:
```

```
    print(num, "is an Armstrong number")
```

```
else:
```

```
    print(num, "is not an Armstrong number")
```

Program 10

```
import math

class Circle:

    def __init__(self, radius):
        self.radius = radius

    def get_result(self):
        return self.radius

    def area(self):
        return math.pi * self.radius ** 2

    def __add__(self, another_circle):
        return Circle(self.radius + another_circle.radius)

    def __sub__(self, another_circle):
        return Circle(self.radius - another_circle.radius)

    def __mul__(self, another_circle):
        return Circle(self.radius * another_circle.radius)

    def __gt__(self, another_circle):
        return Circle(self.radius > another_circle.radius)

    def __lt__(self, another_circle):
        return Circle(self.radius < another_circle.radius)

    def __ge__(self, another_circle):
        return Circle(self.radius >= another_circle.radius)

    def __le__(self, another_circle):
        return Circle(self.radius <= another_circle.radius)

    def __eq__(self, another_circle):
        return Circle(self.radius == another_circle.radius)

    def __ne__(self, another_circle):
        return Circle(self.radius != another_circle.radius)

c1 = Circle(10)
print(c1.get_result())
```

```
print(c1.area())
```

```
c2 = Circle(15)  
print(c2.get_result())  
print(c1.area())
```

```
c3 = c1 + c2  
print(c3.get_result())
```

```
c3 = c2 - c1  
print(c3.get_result())
```

```
c4 = c1 * c2  
print(c4.get_result())
```

```
c5 = c1 < c2  
print(c5.get_result())
```

```
c5 = c2 < c1  
print(c5.get_result())
```