**PYTHON DAY-1**

**1.LEAP YEAR OR NOT**

def is\_leap\_year(year):

return (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0)

year = int(input("Enter a year: "))

print(f"{year} is a leap year." if is\_leap\_year(year) else f"{year} is not a leap year.")

**2.MULTIPLICATION TABLE**

def print\_table(size):

for i in range(1, size + 1):

for j in range(1, size + 1):

print(f"{i \* j:4}", end="")

print()

print\_table(10)

**3.PRIME IN A RANGE**

def is\_prime(n):

if n <= 1:

return False

for i in range(2, int(n\*\*0.5) + 1):

if n % i == 0:

return False

return True

primes = [n for n in range(2, 101) if is\_prime(n)]

print(primes)

**4.LCM AND GCD**

import math

def gcd(a, b):

return math.gcd(a, b)

a = int(input("Enter first number: "))

b = int(input("Enter second number: "))

print(f"GCD of {a} and {b} is {gcd(a, b)}")

**5.FACTORIAL**

def factorial(n):

return 1 if n == 0 else n \* factorial(n - 1)

print(factorial(5))

**6.PRIME OR NOT**

def is\_prime(n):

if n <= 1:

return False

for i in range(2, int(n\*\*0.5) + 1):

if n % i == 0:

return False

return True

number = 29

print(is\_prime(number))

**7.PALINDROME**

def is\_palindrome(s):

return s == s[::-1]

string = "radar"

print(is\_palindrome(string))

**8.FIBONACCI**

def fibonacci(n):

a, b = 0, 1

for \_ in range(n):

print(a, end=' ')

a, b = b, a + b

fibonacci(10)

**9.SUM OF DIGITS**

def sum\_of\_digits(n):

return sum(int(digit) for digit in str(n))

print(sum\_of\_digits(1234))

**10.TECH NO**

def is\_tech\_number(n):

s = str(n)

if len(s) % 2 != 0:

return False

half\_len = len(s) // 2

first\_half = int(s[:half\_len])

second\_half = int(s[half\_len:])

return (first\_half + second\_half) \*\* 2 == n

number = 3025

print(is\_tech\_number(number))