1. Ans.

num = float(input("Enter a number: "))

if num > 0:

print("Positive number")

elif num == 0:

print("Zero")

else:

print("Negative number")

2. Ans

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

if (num % 2) == 0:

print("{0} is Even".format(num))

else:

print("{0} is Odd".format(num))

3. Ans.

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

if (year % 400 == 0) and (year % 100 == 0):

print("{0} is a leap year".format(year))

# not divided by 100 means not a century year

# year divided by 4 is a leap year

elif (year % 4 ==0) and (year % 100 != 0):

print("{0} is a leap year".format(year))

4. Ans.

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

# We will set a flag variable.

flag = False

if num == 1:

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

elif num > 1:

# check for factors

for i in range(2, num):

if (num % i) == 0:

# if factor is found, set flag to True

flag = True

# break out of loop

break

# check if flag is True

if flag:

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

else:

print(num, "is a prime number")

5. Ans.

low = 1

up = 1000

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

for num in range(low, up + 1):

if num > 1:

for i in range(2, num):

if (num % i) == 0:

break

else:

print(num)