DAY2 ASSIGNMENT

Q1. What will be output of following

a. type(0)

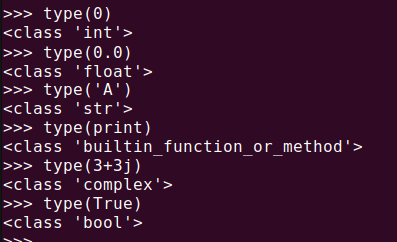
b. type(0.0)

c. type('A')

d. type(print) -> remember print is function

e. type(3+3j)

f. type(True)



Q2. What will be output of following

a. isinstance(10,int)

b. isinstance(10,float)

c. isinstance(1,bool)

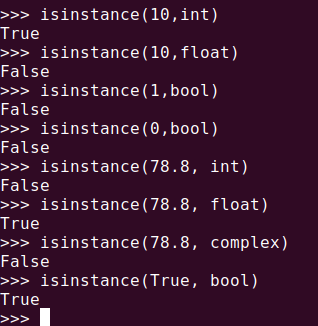
d. isinstance(0,bool)

e. isinstance(78.8,int)

f. isinstance(78.8,float)

g. isinstance(78.8,complex)

h. isinstance(True,bool)



Q3. WAP to take following from user,

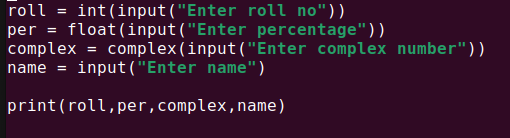
roll no : should be int : store in a variable

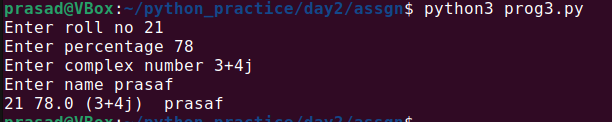
percentage marks : should be float: store in a variable

Any complex number : should be a complex number : store in a variable

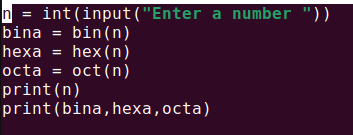
name of student: should be a string : store in a variable

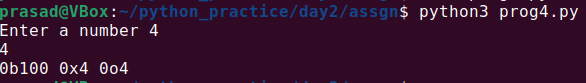
Print values of all four variables





Q4. WAP to convert given integer to binary, hex and octal format





Q5. WAP to convert given binary string to an integer.

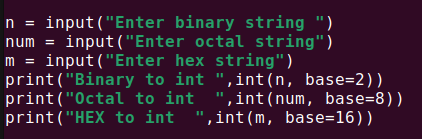
NOTE: Binary string should start with '0b' always

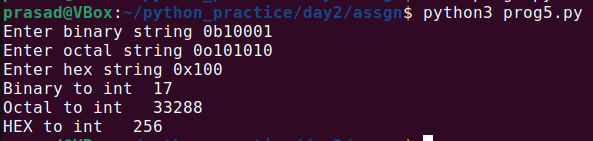
Q6. WAP to convert given octal string to an integer.

NOTE: Binary string should start with '0o' always

Q7. WAP to convert given hex string to an integer.

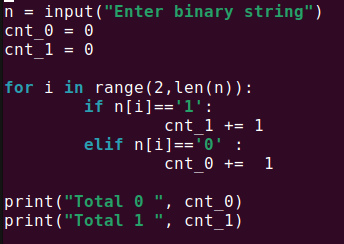
NOTE: Binary string should start with '0x' always

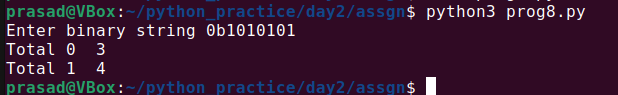




Q8. WAP to take an int from user. Print number of 1's and 0's in binary format of given number.

NOTE: '0b' is suffix in binary string. It should not be included in calculation.



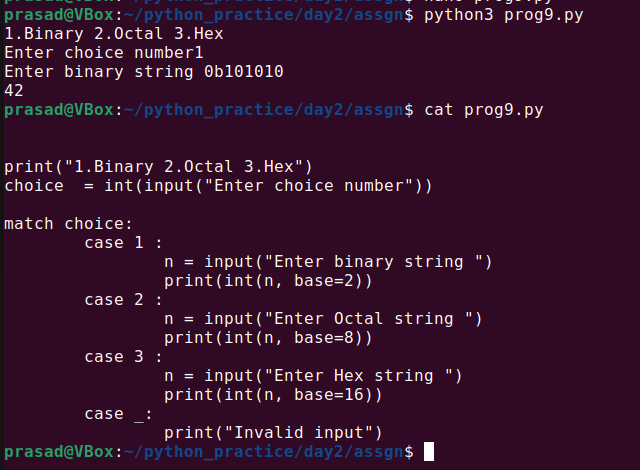


Q9. Write a menu driven program.

Ask the user which input needs to be converted

1. binary 2. Octal 3. Hex

Then convert given string to integer using int() function



Q10. Manually tell output (Truth value) of following expression, then verify it in python

You can get truth value of an expression by passing it to bool()

Ex. bool(100+56\*3) returns True

a. '' (empty string) False

b. 10-10 False

c. 19.99-19.9 True

d. [] (empty list) False

e. range(0) False

f. None False

g. 0+0.1j True

h. -10 True

i. -9.6 True

j. 'ABC'+'KL' True

k. '-' True

l. 'False' True

m. False False

n. 'None' True

Q11. Find the size of x when x is given following values

Hint : Size of object can be found by sys.getsizeof() function

a. x=0

Check what is size of x

b. x=1

Check what is size of x

c. x=2 \*\* 20

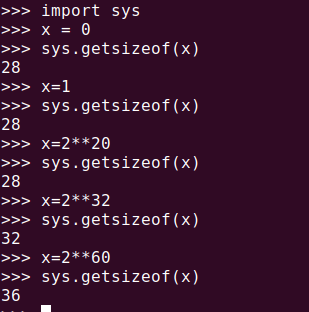
Check what is size of x

d. x=2 \*\* 32

Check what is size of x

e. x=2 \*\* 60

Check what is size of x



Q12. Find output of following

a. 10 + True

b. int(False)

c. bin(False)

d. hex(True)

e. 1578.67 + False

f. int(5/4)

g. int(9/10)

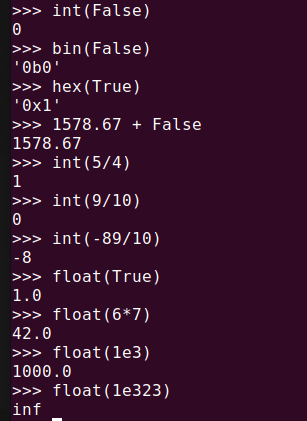
h. int(-89/10)

i. float(True)

j. float(6\*7)

k. float(1e3)

l. float(1e323)

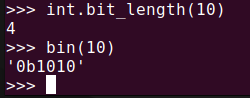


Q13. Solve following

a. Print value of int.bit\_length(10)

Print value of bin(10)

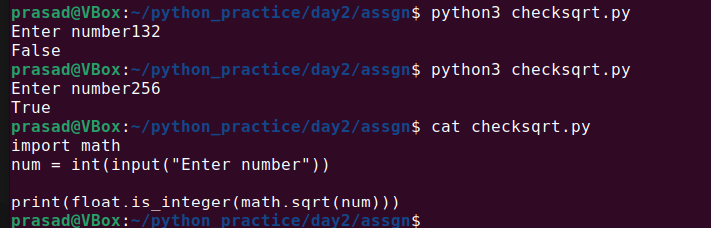
Explain output of both functions



Int.bit\_length will take the input as int and give the length of number of bits excluding the ‘0b’ and bin converts int into binary string.

b. Take a number from user. Find its square root. And check if square root is an integer or not.

(Hint: Use built-in function from float data type functions for last part)



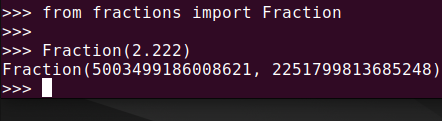
c. Take hexadecimal string from user and convert it to float

Ex. User input string: '0x1.67e30'

o/p 1.4058074951171875



Q14. WAP to convert given floating point number into fraction i..e numerator and denominator, and print them.



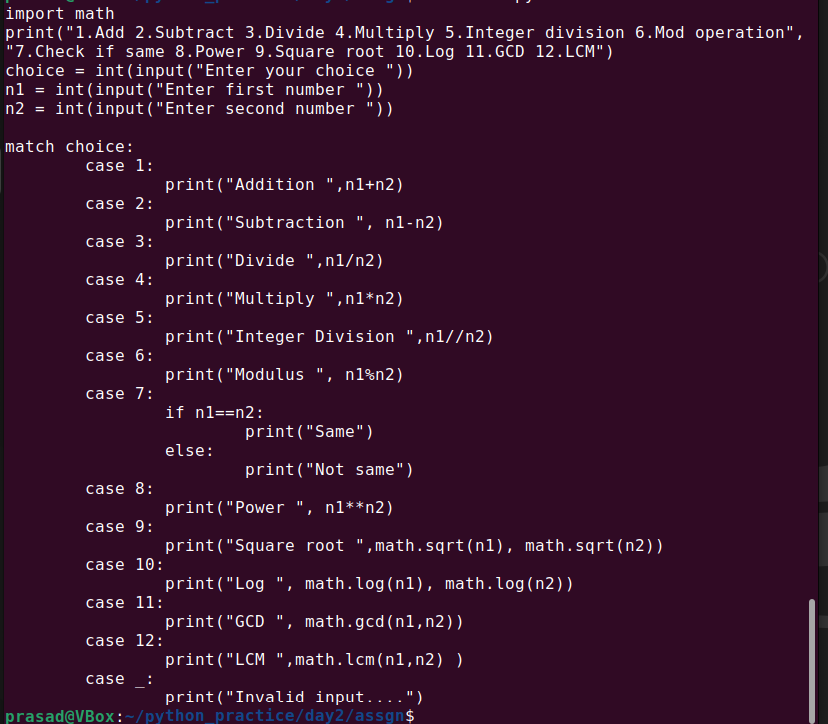
Q15. WAP to create simple calculator in python.

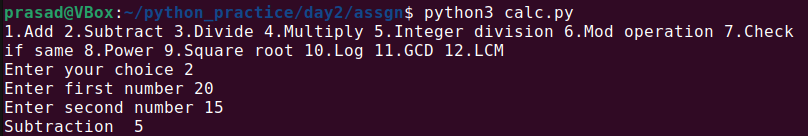
Take two numbers from user and give following options

a. add b. subtract c. divide d. multiply e. integer division f. mod operation

g. check if both numbers are same h. power operation i. square root of both numbers j. log of both numbers

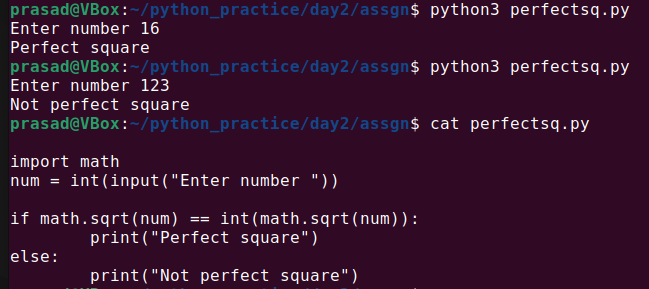
k. gcd (find the the greatest common divisor of the two integers) l. lcm (least common multiple)





Q16. WAP to check given integer is a perfect square or not.

Don't use built in function



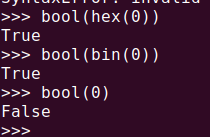
Advanced Assignments:

Q. What is output of following? Explain why such output?

a. bool(hex(0))

b. bool(bin(0))

c. bool(0)



Q. What is output of following ? Explain

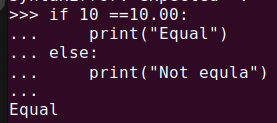
a.

if( 10 == 10.00 ):

print("Equal")

else:

print("not Equal")



PVM does not check data type while comparing it checks content

b.

x=10

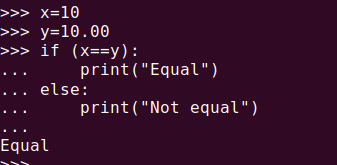
y=10.00

if( x == y ):

print("Equal")

else:

print("not Equal")



c.

x=10

y=10.00

if( x is y ):

print("Same")

else:

print("Not Same")

d.

x=10

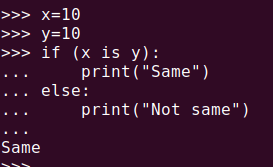
y=10

if( x is y ):

print("Same")

else:

print("Not Same")



Q. What is output of following

a. x = 23+4j

print(x)

b. x = 23+4i

c. x = 23+4k

d. x=complex('23 + 4j')

e. x=complex('23+4j')

print(x)

