

- 1) (-10, -20) matches case (x, y) O/p  $\rightarrow$  quadrant 3
- 2) (10, 0) matches case (x, 0) O/p  $\rightarrow$  x-axis
- 3) (0, -20) matches case (0, y) O/p  $\rightarrow$  y-axis
- 4) (0, 0) matches case (0, 0) O/p  $\rightarrow$  origin
- 5) (10, 20, 30) matches case (10, 20) O/p  $\rightarrow$  not a point - expecting 2 elements
- 6) [10, 20] A list, not a tuple  $\rightarrow$  no match  $\rightarrow$  Not a point quadrant
- 7) [0, -25] Again list  $\rightarrow$  no match  $\rightarrow$  Not a point  $\rightarrow$  y-axis
- 8) () Empty tuple  $\rightarrow$  length mismatch  $\rightarrow$  Not a point
- 9) {10, 20} A set not tuple  $\rightarrow$  Not a point  $\rightarrow$  quadrant unknown
- 10) (25,) Tuple with only one element  $\rightarrow$  Not a point
- 11) {10: 20} A dictionary, not a tuple  $\rightarrow$  Not a point

(16) Write a program to determine bill amount and O/p is units

```

units = int(input('Enter units : '))
match units:
    case 0: # 0 - 99 units
        cost = units * 3.00
    case 1: # 100 - 199 units
        cost = 100 * 3.00 + (units - 100) * 3.50
    case 2 | 3: # 200 - 399
        cost = 100 * 3.00 + 100 * 3.50 + (units - 200) * 4.00
    case 4 | 5 | 6: # 400 - 699
        cost = 100 * 3.00 + 100 * 3.50 + 200 * 4.00 + (units - 400) * 4.50
    case _: # 700 and above
        cost = 100 * 3.00 + 100 * 3.50 + 200 * 4.00 + 300 * 4.50 + (units - 700) * 5.00

```

(17) Write a program to print fibonacci series upto x

let input be 10

what are the outputs?  $\rightarrow 0, 1, 1, 2, 3, 5, 8$

$x = \text{int}(\text{input}(\text{"Enter limit (x):"})$ )

$a, b = 0, 1$

$a=0$ ,  
 $b=1$

while  $a <= x$ :

$\text{print}(a, \text{end}=\text{'.'})$

$a, b = b, a+b$

$0, 1$

$\text{print}(\text{"fibonacci series"})$

$\text{print}(a)$

$\text{print}(b)$

$c = a+b$

while  $c <= x:$

$\text{print}(c)$

$a = b$

$b = c$

$c = a+b$

$2, 3, 5, 8$

$2+3=5$

$3+5=8$

(18) find outputs

while True:

$\text{print}(\text{"Hello"})$

$\text{print}(\text{"Bye"})$

While True: creates an infinite loop

"Hello" printed continuously without

stopping O/p: Hello

Hello

continues

Hello infinitely printed

(19) find outputs

while False:

$\text{print}(\text{"Hello"})$

$\text{print}(\text{"Bye"})$

while False: means the loop condition is false right from the start

so loop skipped and "Hello" not printed

O/p: "Bye"

(20) find outputs

while loop condition should become false at least after few iteration if not immediately

How to print each element of list [10, 20, 15, 18] with for loop

list1 = [10, 20, 15, 18]

10

20

for item in list1:

15

$\text{print}(\text{item})$

18

s = 'H4d' search char of string

for ch in s: default end is next line (nl block slash)

$\text{print}(\text{ch})$

H

4

d

for i in range(5):

print(i)

Output: 0 1 2 3 4

0

1

2

3

4

(21) # find o/p

for x in {10:20, 30:40, 50:60}

keys():

print(x)

print()

for x in {10:20, 30:40, 50:60}

values():

print(x)

print()

for x in {10:20, 30:40, 50:60}

print(x)

① 10 20 30 40 50 60

10  
20

② 10 30 50

10 30 50

③ 20 40 60

20  
40  
60

④ 110, 20

110, 20

⑤ 150, 60

150, 60

(22) # find outputs

a = {10:20, 30:40, 50:60}

for x,y in a.items():

Output: 10...20

print(x,y)

30...40

for x,y in {10:20, 30:40, 50:60}

50...60

print(x,y, sep = ',')

(23) # identify error

Type error: 'int' object is not iterable

for x in 123:

123 is int not sequence

print(x)

Output: 1 2 3

(24) # find output

for x in ():

empty tuple

print(x)

no o/p - print() is not iterable

for x in []:

empty list

print(x)

no o/p

```
for x in {}: no o/p  
print(x)
```

```
for x in "": empty string: no o/p  
print(x)
```

```
for x in range(10,10): no o/p start and end are equal  
print(x) empty range
```

```
for x in range(): Type error: range expected at least 1 argument,  
print(x) get 0 or 2 or 3
```

```
for x in (25): Type error: int object is not iterable  
print(x)
```

(25) # Nested loop demo program range(1,4) gives: 1, 2, 3 → outer loop  
range(1,5) gives: 1, 2, 3, 4 → inner loop

```
for i in range(1,4):
```

```
    for j in range(1,5):
```

```
        print(i, j) #
```

```
        print('Hello')
```

```
    print('Bye')
```

O/p:-

1 1

1 2

1 3

1 4

Hello

2 1

2 2

2 3

2 4

Hello

3 1

3 2

Hello

3 3

3 4

Hello

Bye

loop in a loop

Nested loop

(26) # How to print each element and the corresponding index

```
a = [25, 10.8, 'Hyd', True]
```

```
a = [25, 10.8, 'Hyd', True]
```

```
print('Indexed based for loop') for i in range(len(a))
```

```
    for i in range(len(a)): print('Index = ', i, 'Element = ', a[i])
```

```
    print('Index = ', i, 'Element = ', a[i])
```

```
print('For each loop')
```

```
i = 0
```

```
for x in a:
```

```
    print('Index = ', i, 'Element = ', x)
```

```
i += 1
```

(27) How to print list element without index?

a = [25, 10.8, 'Hyd', True]

1) print ('Indexed for loop')

for i in range (len(a)-1, -1, -1):

print (a[i])

O/p: True Hyd 10.8 25

2) print ('for each loop')

i = len(a)-1

while i >= 0:

print (a[i])

i -= 1

O/p: True Hyd 10.8 25

(28) Write a program to add two lists and store results in 3rd list.

1<sup>st</sup> list → [10, 20, 15, 18]

2<sup>nd</sup> list → [30, 40, 35, 12, 100, 200, 300]

3<sup>rd</sup> list → [10+30, 20+40, 15+35, 18+12] = [40, 60, 50, 30]

Hint:- Use append method.

a = eval (input ('Enter 1<sup>st</sup> list : '))

b = eval (input ('Enter 2<sup>nd</sup> list : '))

c = []

for i in range (len (a)):

c.append (a[i] + b[i])

print ('3<sup>rd</sup> list : ', c)



$x_t = 1$

print('b:', b)

$a = [10, 20, 15, 18]$

for i in range(len(a)):

$a[i] += 1$

print('a:', a)

$b = [10, 20, 15, 18]$

for x in b

$x_t = 1$

print('b:', b)

O/p: a:[11, 21, 16, 19]

b:[10, 20, 15, 18]

(a) ~~we are incrementing elements~~  
 we are increment only  $x$  not the elements  
 so we get the same values  
 even though it is mutable but  
 for each loop we can iterate the  
 elements but can not  
 modify them with next loop

\* Simple in syntax easy to understand

- \* It can track only element but not index
- \* left to right can iterate but, not viceversa
- \*

```
# Find outputs (Home work)
a = {
    print('Hd') ,
    print('Sec') ,
    print('Cub') #print function calls inside {}it creates a set in python

print(type(a))    #class set
print(a)          # none type
print(len(a))    #1

# Anonymous object demo program
_ = 25
print(_)
print(type(_))
a , _ , c = 10 , 20 , 30
print(a)
print(_)
print(c)
for _ in range(5):
    print(_, 'Hello')

# Find outputs
a = 25
print(id(a))      # a=25
a = 35
print(id(a))      # memory address

# Find outputs (Home work)
a = 25.7
print(id(a))      # a is a float object
print(a)          # memory address
a = 35.6
print(id(a))      # 25.7
print(a)          # float object
# memory address
print(a)          # 35.6
b = True
print(id(b))      # 1,bool object
print(b)          # memory address
```

```

File Edit View H1 ▾ ≡ ▾ B I ↵ A
print(a) # 25.7
a = 35.6 # float object
print(id(a)) # memory address
# 35.6
print(a) # 1,bool object
b = True # memory address
print(id(b)) # 0 bool object
b = False # memory address
print(id(b)) # none object
c = None # memory address
print(id(c)) # none object
c = None #memory address
print(id(c))

# Find outputs (Home work)
a = 'Hyd' # its string object I
print(id(a)) # memory address
a[1] = 'e' # error because string is immutable
a = 'Sec' #this is a new string object
print(id(a)) # memory address changes
b = (10 , 20 , 15 , 18) # int values
print(id(b)) # memory address
b[2] = 19 # error because tuple is immutable
b = (30 , 40 , 35 , 32) # int values
print(id(b)) # memory address
c = range(5) # immutable range object
print(id(c)) # memory address
c[3] = 10 # error because tuple is immutable
c = range(5) # immutable range object
print(id(c)) # memory address

Find outputs (Home work)
a = 25 # int
b = 25 # int
print(a is b) # true because both are same objects
c = 'Hyd' # string
d = 'Hyd' # string
print(c is d) # true because both are same objects
e = False # bool

```

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```
#Find outputs(Home work)
a = [10 , 20 , 15 , 18]           # list
b = [10 , 20 , 15 , 18]           # list
print(a is b)                     #list is mutable but it is in different objects
c = {10 : 20, 30 : 40}            # dict
d = {10 : 20, 30 : 40}            # dict
print(c is d)                     # dict are different objects
e = (10 , 20 , 15 , 18)           # tuple
f = (10 , 20 , 15 , 18)           # tuple
print(e is f)                     # tuple is immutable
g = {10 , 20 , 15 , 18}           # set
h = {10 , 20 , 15 , 18}           # set
print(g is h)                     # sets always new object
```

```
Find outputs (Home work)
print(10 + 20)                    # 30 int
print(10.8 + 20.6)                # 31.4 float
print(3 + 4j + 5 + 6j)             # 8+10j complex
print(True + False)                # 1+0 = 1
print('Hyder' + 'abad')            # Hyderabad I
print('Sankar' + 'Dayal' + 'Sarma') # sankarDayalSarma
print('10' + '20')                 # 1020
print([10 , 20 , 30] + [1 , 2 , 3]) #10,20,30,1,2,3 set
print((25 , 10.8 , 'Hyd') + (3 + 4j , True , None)) # (25,10.8,'hyd',3+4j,True,None)
print({10 , 20} + {30 , 40})       # + operator is not supported in dict
print({10 : 'Hyd'} + {20 : 'Sec'}) # error because both are dict
print(10 + '20')                  # error because one is int and one is string
print([10 , 20 , 30] + 5)          # error because list and int cannot add
print(range(4) + range(5))        # error because both are range
print([10 , 20 , 30] + (40,50,60)) # error because list and tuple cannot add
```

```
# Find outputs (Home work)
print(25 * 3)                      # 75
print(10.8 * 25.6)                  # 276.48
print(True * False)                  # 0
print((3 - 4j) * (5 + 6j))          # -9+38i
```

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Plain text

```

File Edit View H1 ≡ B I A8
print((25 , 10.8 , 'Hyd') + (3 + 4j , True , None)) #(25,10.8,'hyd',3+4j,True ,none)
print({10 , 20} + {30 , 40}) # + operator is not supported in dict
print({10 : 'Hyd'} + {20 : 'Sec'}) # error because both are dict
print(10 + '20') # error because one is int and one is string
print([10 , 20 , 30] +5) # error because list and int cannot add
print(range(4) + range(5)) # error because both are range
print([10 , 20 , 30] + (40,50,60)) # error because list and tuple cannot add

# Find outputs (Home work)
print(25 * 3) # 75
print(10.8 * 25.6) # 276.48
print(True * False) # 0
print((3 + 4j) * (5 + 6j)) # -9+38j
print(3 + 4j * 5 + 6j) #3+26j
print('25' * 3) #252525
print(3 * '25') #252525
print('Hyd' * 4) #HydHydHydHyd
print([10 , 20 , 15] * 2) #[10,20,15,10,20,15]
print((25 , 10.8 , 'Hyd' , True) * 3) #(25,10.8,'Hyd',True,25,10.8,'Hyd',True)
print([10 , 20 , 15] * 3.0) #error because must use an integer to repeat lists
print({10 , 20 , 15} * 2) #error because sets cannot be multiplied
print({10 : 20 , 30 : 40} * 2) #error because dict cannot be multiplied
print([10] * [20]) #error because multiplier must be an int not a list

# / operator demo program
print(9.0 / 2) #4.5
print(9 / 2.0) #4.5
print(9.0 / 2.0) #4.5
print(9 / 2) #4.5
print(10.5 / 2) #5.25
print(10 / 3) #3.33
print(10 / 2) #5

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// operator demo program
print(9 // 2) # prev integer of (4.5) = 4

```

Plain text

100% Windows (CRLF)

```

// operator demo program
print(9 // 2)                                # prev integer of (4.5) = 4
print(9.0 // 2)                               # 4.0
print(9 // 2.0)                               # 4.0
print(9.0 // 2.0)                               # 4.0
print(10.5 // 2)                               #5.0
print(10 // 3)                                 # 3.0
print(10.0 // 3)                               # prev integer of 3.33 = 3.0
print(8.5 // 3)                                #2.0
print(18 // 4)                                 #4
print(-18 // 4)                               # -5
print(-(18 // 4))                            #-4

# % operator demo program
print(9 % 5)                                  # 4
print(9.0 % 5)                               #4.0
print(9 % 5.0)                               # 4.0
print(9.0 % 5.0)                               #4.0
print(10.5 % 2)                               # 0.5
print(8.9 % 3)                                # 2.9

# Find outputs
print(7 / 0)                                   # error because division by zero
print(7 // 0)                                   # error because int division by zero
print(7 % 0)                                   # error because int division module by zero

# ** operator demo program
print(3 ** 4)                                 # 81
print(10 ** -2)                               #0.01
print(4 ** 3 ** 2)                             #262144
print(3 + 4 * 5 - 32 / 2 ** 3)               #19.0

```

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```
# Relational operators demo program (Home work)
print(9 >= 5) # True : > is satisfied
print(9 >= 9) # True : = is satisfied
print(9 >= 12) # False : Both are not satisfied
print(6 <= 8) # True 6 is less
print(6 <= 6) #True
print(6 <= 4) # false
print(9 != 7) # True
print(6 == 8) # False
print(True > False) #True
print(3 + 4j == 3 + 4j) #True
print(3 + 4j == 5 + 6j) #False
print(3 + 4j != 5 + 6j) #True
print(10 == 10.0) #True
print(3 + 4j > 3 + 4j) #error because it does not support
```

```
# Find outputs (Home work)
print('Rama' > 'Rajesh') # True : 'm' > 'j'
print('Rama' < 'Sita') # True : 'R' < 'S'
print('Hyd' == 'Hyd') # True I
print('Rama' <= 'Ramana') # True
print('Rao' >= 'Rama') # true
print('Hyd' != 'Sec') # True
print('HYD' < 'hyd') # True
```

```
# Chaining relational opearators (Home work)
print(10 < 20 < 30) # True
print(10 >= 20 < 30) # False : 10 is not >= 20
print(10 < 20 > 30) # False
print(1 < 2 < 3 < 4) # True
print(1 < 2 > 3 > 1) # False
print(4 > 3 >= 3 > 2) # True
```

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# or operator demo program

# Find outputs math 13.txt # Find outputs math 12.txt # Find outputs (Home work) 3.txt X # Find outputs math 1.txt +

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```
print(4 > 3 >= 3 > 2) # True

# or operator demo program
print(True or False) # True
print(False or True) # True
print(True or True) # True
print(False or False) # False
print(10 or 20) # 10
print(0 or 20) # 20
print(-25 or 0) # -25
print('' or 35) #35
print(6j or 'Hyd') # 6j
print(0.0 or 3 + 4j) # False
print('Hyd' or 10.8) # 'Hyd' True

# not operator demo program
print(not True) # False
print(not False) # True
print(not 25) # False
print(not 0) # True
print(not 'Hyd') # False
print(not '') # True
print(not -10) # False
print(not not 'Hyd') #True

# Find outputs (Home work)
i = 10 # int
i = not i > 14 # True
print(i) # True
print(not(6 < 4 or 9 >= 5 and 6 != 6)) # True
```

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```
# Find outputs
print({10 , 20} | {30 , 20})
print({10 : 'Hyd' , 20 : 'Sec'} | {30 : 'Cyd' , 20 : 'Vja'})
print(range(4) | range(5))
print([10 , 20] | [30 , 20])
# both are set
# both are dict { 10: 'Hyd', 20 : 'Vja', 30: 'Cyd' }
# error because not defined for range
# error not supported because list

# Assignment operators demo program (Home work)
a = 25
print(a)
b = a
print(b)
print(a is b)
x = 4
y = 5
z = x + y * 6
print(z)
25 = a
a + b = x + y
# int
# 25
# a to b
# 25
# same object
# 4
# 5
# 4+5 *6 = 34
# 34
# we cannot assign value for expression
# error because cannot assign

# Find outputs (Home work)
a = b = c = 25
print(id(a))
print(id(b))
print(id(c))
print(a , b , c)
# same values
# memory address 25
# memory address 25
#memory address 25
# 25

Multiple Assignment (Home work)
x , y , z = 25 , 10.8 , 'Hyd'
print(x)
print(y)
print(z)
# multiple assignment values
# 25 int
# 10.8 float
# 'Hyd' string
```

# Find outputs (Home work)

Ln1, Col1 6,034 characters Plain text

```
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# Find outputs (Home work)
a , b , c = 3 , 4 , 5
a *= b + c
print(a)                                # a=3 , b=4, c=5
                                            # 27
                                            # 27

# Find outputs (Home work)
a = 20
a %= 3 + 2 * 4
print(a)                                # int
                                            # 9
                                            # 9

# Find outputs (Home work)
a = 3
a **= 4
print(a)                                # int
                                            # 81
                                            # 81

# Identity operators demo program
a = 25
b = 25
print(a is b)                            # int
print(a is not b)                         # int
                                            # True
print(a == b)                            # False
                                            # True

# Find outputs (Home work)
a = 25
b = 25.0
print(a is b)                            # int
print(a is not b)                         # float
                                            # False
print(a == b)                            # True
                                            # True
```

```
PRINT(a == b)
```

```
# Find outputs (Home work)
a = 'Hyd'
b = 'Hyd'
print(a is b)                                # string
print(a is not b)                             # string
print(a == b)                                 # True
print()                                       # False
print()                                       # True
x = [1 , 2 , 3 , 4]
y = [1 , 2 , 3 , 4]
print(x is y)                                # two are different objects
print(x is not y)                            # two are different objects
print(x == y)                                 # False
print()                                       # True
print(x == y)                                 # True
print()                                       # True
# empty
print()                                       # empty
m = (1 , 2 , 3 , 4)
n = (1 , 2 , 3 , 4)
print(m is n)                                # both are tuples
print(m is not n)                            # both are tuple
print(m == n)                                 # True
print(m == n)                                 # False
print(x == m)                                 # True
```

```
list= [10 , 20 , 15 , 12 , 18]
print(15 in list)                            # [10 , 20 , 15 , 12 , 18]
print(19 in list)                            # True
print(14 not in list)                         # False
print(15 not in list)                         # True
s = 'Hyd is green city'
print(' is' in s)                            # False
print('was' in s)                            # True
print('g' in s)                              # False
print('z' in s)                              # True
print(' ' in s)                               # False
print('gre' in s)                            # True
print('yd i' in s)                           # True
print('' in s)                                # True
print('' not in s)                            # False
```

Plain text

Ln 1, Col 1 6,034 characters

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```
# Find outputs (Home work)
x = [1 , 2 , 3 , 4]
y = [1 , 2 , 4 , 3]
print(x == y)
# list
# list
# False because no order
a = (4 , 1 , 3 , 2)
b = (4 , 2 , 3 , 1)
print(a == b)
# tuple
# tuple
# False because no order
p = {1 , 2 , 3 , 4}
q = {4 , 1 , 3 , 2}
print(p == q)
# set
# set
# True because same elements
m = range(5)
n = range(5)
print(m == n)
# range
# range
# True because same ranges
```

```
# Find outputs (Home work)
a = [10,20,30]
b = (10,20,30)
print(a is b)
# list
# tuple
# False
print(a == b)
# False
```

I

```
# ++ and -- operators demo program
a = 25
print(++a)
# +(a) = +a = 25
print(a++)
# (a++)+ = a+ = 25+ throws error
print(a++1)
# a + (+1) = a + 1 = 25 + 1 = 26
print(--a)
# -(a) = 25
# error -- ia not allowed
print(a--)
# a - (1) = 24
# error -- ia not allowed
print(a-1)
# -25
print(-a)
# +(-a) = -25
print(+a)
# -(+a) = -25
```

Q A15: @Akhanddy  
# Semicolon demo program
print('One');
print('Two');

# one
# two

File Edit View H1 ≡ B I ↵ A8

```
# Semicolon demo program
print('One');
print('Two');
print('Three');
print('Hyd') ; print('Sec') ; print('Cyb')

# one
# two
# three
# Hyd
Sec
Cyb

# floor() and ceil() functions demo program
import math
print(math.floor(10.8))          # 10
print(math.ceil(10.8))           # 11
print(math.floor(25.0))          # 25
print(math.ceil(25.0))           # 25
print(math.floor(-3.5))          # -4
print(math.ceil(-3.5))           # -3
print(math.floor(-9.0))          # -9
print(math.ceil(-9.0))           # -9
print(math.floor(25.1))          # 25
print(math.ceil(25.1))           # 26
print(floor(3.5))               # error floor is not directly available without 'math'
print(ceil(3.5))                # error ceil is not directly available without 'math'

gcd() function demo program
import math
print(math.gcd(12, 15))          # 3
print(math.gcd(12, 18))           # 6
print(math.gcd(4, 7))             # 1
print(math.gcd(7, 7))             # 7
print(math.gcd(-18, -27))         # 9
print(math.gcd(-4, 6))            # 2
print(math.gcd(0, 7))             # 7
print(math.gcd(3, 0))             # 3
print(math.gcd(0, 0))             # 0
print(gcd(5, 15))               # error gcd is not directly available without 'math'
```

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Plain text

100%

Windows (C)

```
File Edit View
from builtins import abs
print(abs(-35.8)) # 35.8
print(abs(-27)) # 27
print(abs(29.5)) # 29.5
print(abs(32)) # 32
import builtins
print(builtins.abs(-25)) # 25

max() and min() functions demo program
from builtins import max, min
print(max(10.8, 20.6)) # 20.6
print(min(10.8, 20.6, 5.9, 12.3)) # 5.9
print(max(25, 10.8)) # 25
import builtins
print(builtins.max(10, 20, 30)) # 30
print(builtins.min(10, 20, 15, 5, 12)) # 5

# pow() function demo program
from builtins import pow
print(pow(10, -2)) # 0.01
print(pow(4, pow(3, 2))) # 262144
import builtins
print(builtins.pow(2, 3)) # 8
print(builtins.pow(-2, -3)) # -0.125

# Find outputs
How to import kw list
How to print kwlist
How to print number of keywords
How to print type of kwlist
print(keyword.kwlist)

# import key words
# print(keyword.kwlist)
# print(len(keyword.kwlist))
# print(type(keyword.kwlist))
# print(keyword.kwlist)

# Find outputs (Home work)
In1.Cel: 12,398 characters
```

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```

File Edit View H1 ⊞ B I ⊞ A
print(max(10.8 , 20.6))
print(min(10.8 , 20.6 , 5.9 , 12.3))
print(max(25 , 10.8))
import builtins
print(builtins . max(10 , 20 , 30))
print(builtins . min(10 , 20 , 15 , 5 , 12))

# pow() function demo program.
from builtins import pow
print(pow(10 , -2)) # 0.01
print(pow(4 , pow(3 , 2))) # 262144
import builtins
print(builtins . pow(2 , 3)) # 8
print(builtins . pow(-2 , -3)) # -0.125

# Find outputs
How to import kw list
How to print kwlist
How to print number of keywords
How to print type of kwlist
print(keyword . kwlist)

# import key words
# print(keyword.kwlist)
# print(len(keyword.kwlist))
# print(type(keyword.kwlist))
# print(keyword.kwlist)

# Find outputs (Home work)
How to import keyword module
How to print kwlist
How to print number of keywords
How to print type of kwlist
print(kwlist)

# import keyword
# print(keyword.kwlist)
# print(len(keyword.kwlist))
# print(type(keyword.kwlist))
# error kwlist is not directly available without 'keyword'

```

File Edit View

```
# eval() function demo program
print(eval('25'))                                # 25
print(eval('10.8'))                               # 10.8
print(eval('False'))                             # False
print(eval('3+4j'))                               # 3+4j
print(eval('Hyd'))                                # Hyd is not defined
print(eval("    'Hyd'   "))                         # Hyd
print(eval('3 + 4 * 5'))                           # 23
print(eval('[10 , 20 , 15 , 18]'))                #[10,20,15,18]
print(eval('{10,20,15,18,20,12,18}'))             #{10,12,15,18,20}
print(eval('(10 , 20 , 30)'))                      #(10,20,30)
print(eval("{10 : 'Hyd' , 10 : 'Sec'}"))          #{(10:'SEC')}
print(eval(4 + 5))                                # error because it should string
```

```
# Tricky program
# Find outputs (Home work)
print(eval("    'hyd'   "))                         # ' hyd'
hyd = 'Sec'                                         # 'Sec'
print(eval('hyd'))                                 # 'Sec'
sec = '25'                                           # '25'
print(eval('sec'))                                 # '25'
print(eval(sec))                                   # 25
cyb = 10.8                                         # 10.8
print(eval('cyb'))                                 # error because it should be string
```

```
# Find outputs (Home work)
print(bool('False'))                                # True
print(eval('False'))                               # False
print(bool(''))                                    # False
print(eval('  ""  '))                            # ""an empty which is in blank
print(eval(''))                                    # error unexpected EOF while parsing
print(eval('  ""  '))                            # " "
print(eval(''))                                    # error unexpected EOF while parsing
```

Ln 1, Col 1 28,853 characters

Plain text

O P O A T E @Akhi reddy

File Edit View H1 ☰ B I ⊖ Ab

```
# What is the advantage of eval(input()) ?
x = eval(input('Enter any input : '))           # 10
print(type(x))                                # class int
print(x)                                       # 10

What is a better approach to read string input ?
a = input('Enter any string : ')                # 'Hyd'
print(len(a))                                  # 3
print(a)                                       # hyd
b = eval(input('Enter any string : '))          # 'Sai'
print(len(b))                                  # 3
print(b)                                       # Sai

# sep argument demo program (Home work)
a , b , c = 25 , 10.8 , 'Hyd'
print(a , b , c , sep = ',')                   # 25 , 10.8 , Hyd
print(a , b , c , sep = '\t')                  # 25<tab>10.8<tab>'Hyd'<tab>
print(a , b , c , sep = '---')                 # 25---10.8---'Hyd'
print(a , b , c , sep = '\n')                  # 25<newline>10.8<newline>'Hyd'<newline>
print(a , b , c)                             # 25 , 10.8 , Hyd
print(a , b , c , separator = ':')             # error because it is not separator it is sep

# Find outputs (Home work)
a , b , c = 25 , 10.8 , 'Hyd'
print(a , b , c , end = '---')                 # 25   10.8   'Hyd'---
print(a , b , c , sep = ',,,' )                #25,,,10.8,,,,'Hyd'
print(a , b , c , sep = ':::' , end = '\t\t\t') # 25:::10.8:::'Hyd'.
print(a , b , c)                             # 25 , 10.8 , Hyd
```

```

# Find outputs (Home work)
print('Hyd')
print()
print('Sec')
print()
print('Cyb')

# Find outputs (Home work)
l = [10 , 20 , 30 , 40]
t = (10 , 20 , 30 , 40)
s = {10 , 20 , 30 , 40}
print(l , t , s)

Find outputs (Home work)
a = 25
b = '%f' %a
print(b)
print(type(b))
x = 10.8
y = '%d' %x
print(y)
print(type(y))
m = [10 , 20 , 15 , 18]
n = '%s' %m
print(n)
print(type(n))

# Find Outputs (Home work)
a = 10.9274
print('%8.2f' %a)
print('%9.1f' %a)
print('%10.3f' %a)
print('%2.f' %a)
print('%6f' %a)
print('%@A%a')reddy

In 1 Col 1    28.853 characters          Plain text

```

```

# Find outputs (Home work)
a = 'Hyd'
print('%7s' %a)                                # <4 spaces>Hyd
print('%-7s' %a)                               # Hyd<4 spaces>
print('%2s' %a)                                # Hyd and ignores smaller width
print('%s' %a)                                 # Hyd
print('%s' , a)                                # %s Hyd
print('%s' , %a)                               # error comma is missing b/w
print('%s' , , a)                            # error invalid
print(a)                                       # Hyd

# Find outputs (Home work)
a = [10 , 20 , 30 , 40]
print('%s' %a)                                # [10 , 20 , 30 , 40]
print('%s' , a)                                # [10 , 20 , 30 , 40]
print('%s' a)                                 # %s [10 , 20 , 30 , 40] I
print('%s' , %a)                               # error comma is missing b/w
print('%l' %a)                                # error invalid
print(a)                                       # [10 , 20 , 30 , 40]

a = 25
b = 10.9274
c = 'Hyd'
print('%d %f %s' %(a , b , c))                # 25 10.927400 Hyd
print('%i %g %s' %(a , b , c))                # 25 10.9274 Hyd
print('%s %s %s' %(a , b , c))                # 25 10.9274 Hyd
print('%d %g %s' , a , b , c)                  # 'd %g %s 25 10.9274 Hyd
print('%d %g %s' , , a , b , c)                # error because comma is missing
print('%d %g %s' , %a%b%c)                     # error because not add + % ()
print('%d' %a , '%f' %b , '%s' %c)           # 25 10.927400 Hyd
                                                # error because change format not support

```

```

File Edit View H1 ~ ≡ ~ B I ⊖ ⊕
x = 25
y = F'{x}'
print(y)
print(type(y))
x = 10.8
y = F'{x}'
print(y)
print(type(y))
x = [10,20,30,40]
y = F'{x}'
print(y)
print(type(y))

# 25
# '25'
# 25
# string
# 10.8
# '10.8'
# 10.8
# string
# [10,20,30,40]
# '[10,20,30,40]'
# [10,20,30,40]
# string

a , b , c = 25 , 10.8 , 'Hyd'
print(F'{a} \t {b} \t {c}')
print(F'{a} \t {b=} \t {c=}')
print(F'{a=} \t {b=} \t {c=}')
print(F'{a=} \t {b=} \t {c=}')
print(F'{a = a} \t {b = b} \t {c = c}')
print(F'{x = } \t {y = } \t {z = }')

# 25 , 10.8 , 'Hyd'
# 25 10.8 Hyd
# a=25 b=10.8 c='Hyd'
# a=25 b=10.8 c='Hyd'
# 25 10.8 Hyd
#25 10.8 Hyd
# a = {a} b = {b} c = {c}
# a = a b = b c = c

# Find outputs (Home work)
x = 25
print(F'{x}')
print(F'{{x}}')
print(F'{{{x}}}')
print(F'{{{x}}}')
print(F'{{{x}}}')
print(F'{{{x}}}')
print(F'{{{x}}}')
print(F'{{{x}}}')


# 25
# {x}
# {25}
# {{x}}
# {{25}}
# {{x}}
# {{25}}
# {{{x}}}

```

PO A15s : ~~Algebraic~~ Write a program to determine sum difference product quotient largest and smallest of two numbers

Ln 1, Col 1 28,853 characters

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Windows (CRLF)

# Find outputs math 13.txt # Find outputs math 12.txt # Find outputs (HOME WORK) DATA STRUCTURE & ALGORITHMS

File Edit View

H1 ~ ≡ ~ B I ⊞ A8

Write a program to determine sum , difference , product , quotient , largest and smallest of two numbers.  
Also find remainder, sqrt of first input , power, gcd and factorial of first input

Hint: Use F string to print results

Let inputs be 10 and 7,  
What is the sum ? ---> 17  
What is the difference ? ---> 3  
What is the product ? ---> 70  
What is the quotient ? ---> 1.42  
What is the remainder ? ---> 3  
What is the largest number ? ---> 10  
What is the smallest number ? ---> 7  
What is the sqrt of 1st input ? ---> 3.16  
What is the result of power? ---> 10000000  
What is the gcd of 2 numbers ? ---> 1  
What is the factorial of 1st input ? ---> 10!  
...

```
print(f'Sum = {sum_}')
print(f'Difference = {diff}')
print(f'Product = {Prod}')
print(f'Quotient = {quot}')
print(f'Remainder = {rem}')
print(f'Largest number = {largest}')
print(f'Smallest number = {smallest}')
print(f'Square root of first input = {sqr_a}')
print(f'{A} raised to the power {b}')
print(f'GCD of {a} and {b} = {gcd}')
print(f'Factorial of {a} = {a} !')
```

Write a program to swap values of any two objects in a single statement without using 3rd object

A15s : @Akhi reddy  
Let 'x' be 25 and 'y' be 'Hyd'  
What are 'x' and 'y' after swap ? ---> Hyd and 25

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File Edit View

...  
Write a program to swap values of any two objects in a single statement without using 3rd object

Let 'x' be 25 and 'y' be 'Hyd'  
What are 'x' and 'y' after swap? ---> Hyd and 25

Hint: Swap references but not objects  
...

x=25  
y='Hyd'  
x,y=y,x  
print(f'After swap :{x}|{y}')

I

Write a program to determine largest of three inputs without using max() function

1) What is the output if inputs are 10 , 20 and 15 ? ---> 20

2) What is the output if inputs are 2.8 and 27.9 ? ---> 42.8

35.8 , 4  
3) What is the output if inputs are 'RAMA' , 'RAKESH' and 'RAKESH' ? ---> 'RAMA'

4) What is the output if inputs are [10 , 20 , 15 , 18] , [10 , 20 , 32, 19] and [10 , 20 , 25, 17] ? ---> [10 , 20 , 32 , 19]

5) Inputs can be integers , floats , strings and so on

6) Use nested ternary operator  
...

a= 10  
b = 20  
c = 15

print ( f'largest of {a}, {b} and {c}'  
a , b , c = 10 , 20 , 15

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Windows (CRLF)

- 4) What is the output if inputs are [10 , 20 , 15 , 18] , [10 , 20 , 32, 19] and [10 , 20 , 25, 17] ? ---> [10 , 20 , 32, 19]
- 5) Inputs can be integers , floats , strings and so on
- 6) Use nested ternary operator

```
...  
a= 10  
b = 20  
c = 15  
  
print ( f'largest of {a}, {b} and {c}' )  
a , b , c = 10 , 20 , 15  
  
a= 35.8  
b = 42.8  
c = 27.9  
I  
  
print ( f'largest of {a}, {b} and {c}' )  
a , b , c = 35.8 , 42.8 , 27.9  
  
a= 'RAMA'  
b = 'RAKESH'  
c = 'RAKESH'  
  
print ( f'largest of {a}, {b} and {c}' )  
a , b , c = 'RAMA' , 'RAKESH' , 'RAKESH'  
  
a= [10 , 20 , 15 , 18]  
b = [10 , 20 , 32, 19]  
c = [10 , 20 , 25, 17]  
  
print ( f'largest of {a}, {b} and {c}' )  
a , b , c = [10 , 20 , 15 , 18] , [10 , 20 , 32, 19] , [10 , 20 , 25, 17]
```

File Edit View H1  $\equiv$  B I G A

Write a program to print '**>**' if 1st input > 2nd input,  
                  '**<**' if 1st input < 2nd input and  
                  '**=**' if inputs are same

1) What is the result if inputs are 10 and 20 ? ---> <  
2) What is the result if inputs are 70 and 60 ? ---> >  
3) What is the result if inputs are 25 and 25 ? ---> =  
4) Inputs can be integers , floats , strings and so on  
5) Use ternary operator

...

Write a program to print 1 if input is +ve , -1 if input is -ve and 0 if input is 0

1) What is the result if input is -25 ? ---> -1  
2) What is the result if input is 75 ? ---> 1  
3) What is the result if input is 0 ? ---> 0  
4) Use nested ternary operator

...

Write a program to test input is even number or odd number

1) What is an even number ? ---> Divisible by 2  
2) What is an odd number ? ---> Not divisible by 2  
3) Use ternary operator