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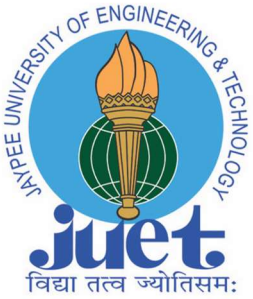

[LAB ACTIVITY 4]

Advanced Programming (18B17CI373)

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1. Write the output corresponding to the following statements. Assume that the statements are executed in the order in which they are written.

a. tup1 = (5,10,15,20,25)

b. print(len(tup1))

c. print(tup1[4])

d. print(tup1[5])

e. print(tup1[4:5])

f. tup1[2] = 12

g. print(tup1)

h. tup1=tup1+(8,9)

Solution:

```
tup1 = (5,10,15,20,25)
print(len(tup1))
print(tup1[4])
print(tup1[5])
print(tup1[4:5])
tup1[2] = 12
print(tup1)
tup1=tup1+(8,9)
```

Output:

```
5
25
---------------------------------------------------------------------------
IndexError                                Traceback (most recent call last)
<ipython-input-1-22de7ab3d109> in <module>()
      2 print(len(tup1))
      3 print(tup1[4])
----> 4 print(tup1[5])
      5 print(tup1[4:5])
      6 tup1[2] = 12

IndexError: tuple index out of range
```

2. Pure Gems Store sells different varieties of gems to its customers. Emerald, Ivory, Jasper, Ruby, Garnet and their prices are 1760, 2119, 1599, 3920, 3999 respectively.

Write a Python program to calculate the bill amount to be paid by a customer based on the list of gems and quantity purchased. Any purchase with a total bill amount above Rs.30000 is entitled for 5% discount. If any gem required by the customer is not available in the store, then consider total bill amount to be -1.

Assume that quantity required by the customer for any gem will always be greater than 0. Perform case-sensitive comparison wherever applicable.

Solution:

Output:

3. Write a python function to check whether three given numbers can form the sides of a triangle.

Hint: Three numbers can be the sides of a triangle if none of the number is greater than or equal to the sum of the other two numbers.

Solution:

```
A=float(input("Enter you First number : "))
B=float(input("Enter you Second number : "))
C=float(input("Enter you Third number : "))
if C>(A+B) or A>(B+C) or B>(A+C):
  print("Triangle is Not Possible ")
else:
  print("Triangle is Possible ")
```

Output:

```
Enter you First number : 2.2
Enter you Second number : 2.
Enter you Third number : 8
Triangle is Not Possible
```

4. Write a python program to solve a classic ancient Chinese puzzle. If there are 35 heads and 94 legs among the chickens and rabbits in a farm. How many rabbits and how many chickens do we have?

Sample Input Expected Output

heads-150 legs-400 100 50

heads-3 legs-11 No solution

heads-3 legs-12 0 3

heads-5 legs-10 5 0

Solution:

```
heads=int(input("Enter Heads :"))
legs=int(input("Enter Legs :"))
chicken_count = 0
rabbit_count = 0
if legs % 2 != 0:
  print("No Solution")
else:
```

```
  rabbit_count = (legs-2*heads)/2
  chicken_count = heads-rabbit_count
print(int(chicken_count))
print(int(rabbit_count))
```

Output:

```
Enter Heads :35
Enter Legs :94
23
12
```

5. https://practice.geeksforgeeks.org/problems/magical string3653/1/?difficulty[]=-1&page=1&sortBy=newest&query=difficulty[]-1page1sortBynewest (Write and submit the python program.)

Solution:

```
#User function Template for python3
class Solution:
    def magicalString (ob,S):
        # code here
     ans=""
     for i in S:
       ans=ans+chr(ord('z')-ord(i)+ord('a'))
     return ans


#{
#  Driver Code Starts
#Initial Template for Python 3
if __name__ == '__main__':
    t = int (input ())
    for _ in range (t):

        S=str(input())

        ob = Solution()
        print(ob.magicalString(S))
# } Driver Code Ends
```

Output:

```
1
varun
ezifm
```

6. https://www.codechef.com/problems/TRAVELPS (Write and submit the python program.)

Solution:

```
t=int(input())
while t>0:
  n=int(input())
  a=int(input())
  b=int(input())
```

```
  s=input()
  count0=0
  count1=0
  for i in range(0,n):
    if s[i]=='0':
      count0=count0+1
    else:
      count1=count1+1
  t=t-1
  print(a*count0 + b*count1)
```

Output:

```
3
2
1
2
00
2
2
1
1
01
2
4
2
1
1101
5
```