WTF23DSC030

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1 WTFC2023 DATA SCIENCE AND AI GROUP C SUB GROUP1- MARGARET OLUWADARE(WTF/23/DS/C/030)

QUESTION ONE: Write a function to calculate the multiplication and sum of two numbers.

```python
[1]: ##Q1 SOLUTION
def product(a,b):
    if(a<b):
        return product(b,a)
    elif(b!=0):
        return(a+product(a,b-1))
    else:
        return 0

def summing(numbers):
    total = 0
    for x in numbers:
        total = total + x
        print(total)
    return total

a=int(input("Enter first number: "))
b=int(input("Enter second number: "))
numbers= [a, b]
print("Product is: ",product(a,b))
print("Sum is: ", summing(numbers))
```

```
Enter first number: 3
Enter second number: 2
Product is:  6
3
5
Sum is:  5
```

QUESTION 2: Write a function to print the sum of the current number and the previous number

```python
[2]: ##Q2 SOLUTION
def recurSum(m):
```

```
    if m <= 0:
        return m
    return recurSum(m - 1) + m

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

print(recurSum(m))
```

```
Enter first number: 45
1035
```

QUESTION:Write a function to print characters from a string that are present at an even index number

```
[3]: ##Q3 SOLUTION
     a= []
     def evenstr(str1):
         for index, char in enumerate(str1):
             if index %2==0:
                 a.append(index)
                 print("Current character", char, "position at", index )

     evenstr("Idiosyncracy")
```

```
Current character I position at 0
Current character i position at 2
Current character s position at 4
Current character n position at 6
Current character r position at 8
Current character c position at 10
```

QUESTION 4: Write a function to rremove first characters from a string

```
[4]: ##Q4 SOLUTION
     def erase(string, n):
         for index, char in enumerate(string):
             return string[1: ]

     string=input("Enter the string:")
     n = int(input("index to be remove:"))
     print("New string:" )
     print(erase(string, n))

     #Control code
```

```
Enter the string:Kosisochukwu
index to be remove:0
New string:
osisochukwu
```

QUESTION 5: Write a function to check if the first and last number of a list is the same

```
[5]: ##Q5 SOLUTION
     def check(num):
         if num[0] == num[-1]:
             print('Result is True')
         else:
             print('Result is False')

     num = [ ]
     nums = int(input("Enter the size of the List ::"))
     print("Enter the Element of List ::")
     for j in range(int(nums)):
         l=int(input(""))
         num.append(l)
     check(num)
```

```
Enter the size of the List ::7
Enter the Element of List ::
23
4
2
4
65
75
3
Result is False
```

QUESTION 6: Write a function to print multiplication table from 1 to 10

```
[6]: ##Q6 SOLUTION
     def multtable(num, num1):
         for i in range(start, end + 1):
             for j in range(1, num1):
                 k = i*j
                 #num2 = int(input('Desired number:'))
                 #print('Multiplication table of', num1)
                 #print(j, 'x', i, '=', k)
                 print("{:2d} ".format(k),end='')
             print("\n")   # line break

     num1 = int(input('Desired number: '))
     start = int(input('Start at:'))
     end= int(input('End at:'))
     print()

     ##Control code
     multtable(1, num1)
```

```
Desired number: 10
Start at:1
End at:12

 1   2   3   4   5   6   7   8   9

 2   4   6   8  10  12  14  16  18

 3   6   9  12  15  18  21  24  27

 4   8  12  16  20  24  28  32  36

 5  10  15  20  25  30  35  40  45

 6  12  18  24  30  36  42  48  54

 7  14  21  28  35  42  49  56  63

 8  16  24  32  40  48  56  64  72

 9  18  27  36  45  54  63  72  81

10  20  30  40  50  60  70  80  90

11  22  33  44  55  66  77  88  99

12  24  36  48  60  72  84  96 108
```

QUESTION 7:Given a two list of numbers, write a function to create a new list such that the new list should contain odd numbers from the first list and even numbers from the second list.

```python
[7]: ##Q7 SOLUTION
     even = []
     odd = []
     def evenodd(A,B):
         for i in A:
             for i in B:
                 if (i % 2 == 0):
                     even.append(i)
                 else:
                     odd.append(i)
         print("Even lists:", even)
         print("Odd lists:", odd)

     # Driver Code
     A=[ ]
     n=int(input("Enter the size of the First List ::"))
```

```
print("Enter the Element of First  List ::")
for i in range(int(n)):
    k=int(input(""))
    A.append(k)

B=[ ]
m=int(input("Enter the size of the second List ::"))
print("Enter the Element of second  List ::")
for j in range(int(m)):
    l=int(input(""))
    B.append(l)

evenodd(A,B)
```

```
Enter the size of the First List ::6
Enter the Element of First  List ::
12
3
4
65
7
5
Enter the size of the second List ::5
Enter the Element of second  List ::
12
34
54
6
54
Even lists: [12, 34, 54, 6, 54, 12, 34, 54, 6, 54, 12, 34, 54, 6, 54, 12, 34,
54, 6, 54, 12, 34, 54, 6, 54, 12, 34, 54, 6, 54]
Odd lists: []
```

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