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21BDS0340

Computer Science Lab

Problem Set 3

Question 1

Code:

```
import re

sen = input()
words = sen.split(' ')
start = input()
end = input()

for i in words:
    # checking if I starts with start variable
    if re.match('^' + start, i.lower()):
        print(i)

for i in words:
    # checking if I ends with end variable
    if re.match('.*' + end + '$', i.lower()):
        print(i)
```

Algorithm:

Import Regex

Read Sentence

Initialise Words by splitting Sentence by space

Read Start

Read End

Loop through Words with I

 If lowercase I starts with Start

 Display I

Loop through Words with I

 If lowercase I ends with End

 Display I

Output:

	Test	Input	Expected	Got	
✓	1	An apple for a day keeps the doctor away a y	An apple a away day away	An apple a away day away	✓
✓	2	An apple for a day keeps the doctor away f s	for keeps	for keeps	✓

Your code failed one or more hidden tests.

Your code must pass all tests to earn any marks. Try again.

Question 2

Code:

```
import re

sen = input()
words = sen.split(' ')
start = input()
end = input()

for i in words:
    # checking if I starts with start variable and ends with end variable
    if re.match('^' + start, i.lower()) and re.match('.*' + end + '$',
i.lower()):
        print(i)
```

Algorithm:

Import Regex

Read Sentence

Initialise Words by splitting Sentence by space

Read Start

Read End

Loop through Words with I

If lowercase I starts with Start and ends with End

Display I

Output:

	Test	Input	Expected	Got	
✓	1	An apple for a day keeps the doctor away d r	doctor	doctor	✓
✓	2	An apple for a day keeps the doctor away a e	apple	apple	✓

Passed all tests! ✓

Question 3

Code:

```
def Check_21BDS0340(Parameter):  
    # getting length of Parameter  
    string_length = len(Parameter)  
  
    # getting last character of Parameter  
    end_character = int(Parameter[-1])  
  
    # return whether they are the same  
    return string_length == end_character  
  
string = input()  
print(Check_21BDS0340(string))
```

Algorithm:

Check_21BDS0340(String Param):

Initialise String_Length as length of Param

Initialise End_Character as the last character of Param and convert it to integer

Return True if String_Length equals End_Character, else return False

Read String as input

Display Check_21BDS0340(String)

Output:

	Test	Input	Expected	Got	
✓	1	String7	True	True	✓
✓	2	Hello5	False	False	✓

Passed all tests! ✓

Question 4

Code:

```
def Salary_21BDS0340(List):
    # initialising min and max salaries and ids
    max_salary = min_salary = List[0]['salary']
    max_id = min_id = List[0]['id']

    # finding max salary
    for i in List:
        if i['salary'] > max_salary:
            max_salary = i['salary']
            max_id = i['id']

    # finding min salary
    for i in List:
        if i['salary'] < min_salary:
            min_salary = i['salary']
            min_id = i['id']

    print(max_id)
    print(min_id)

List = eval(input())
Salary_21BDS0340(List)
```

Algorithm:

Salary_21BDS0340(list List):

Initialise Max_Salary and Min_Salary as the first salary field in List

Initialise Max_Id and Min_Id as the first id field in List

Loop through List as I

 If I's Salary > Max_salary

 Max_Salary is now I's Salary

 Max_Id is now I's Id

Loop through List as I

 If I's Salary < Min_salary

 Min_Salary is now I's Salary

 Min_Id is now I's Id

Display Max_Id

Display Min_Id

Read List as evaluated input

Call Salary_21BDS0340(List)

Output:

Test	Input	Expected	Got	
✓ 1	[{"id":1001,"name":"abc","salary":10000}, {"id":1002,"name":"def","salary":80000}, {"id":1003,"name":"ghi","salary":100000}]	1003 1001	1003 1001	✓
✓ 2	[{"id":10001,"name":"aabc","salary":80000}, {"id":10002,"name":"ddef","salary":75000}, {"id":10003,"name":"gghi","salary":120000}, {"id":10004,"name":"jjkl","salary":150000}]	10004 10002	10004 10002	✓

Passed all tests! ✓