03. List related simple excercise

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1 Excercise: List

Note Book Owner: Emdadul Hoque Problem 01: Create a list of five elements. Pass the list to a function and compute the average of five numbers.

[3]:
```
def average(lst):
    print("List: ", lst)
    avg = sum(lst)/len(lst)
    return avg

lst = [1, 2, 3, 4, 5]
avrg = average(lst)
print("Average : ", avrg)
```

```
List:  [1, 2, 3, 4, 5]
Average :  3.0
```

Problem 02: Write a function that accepts two positive integers, viz. a and b and returns a list of all the even numbers between a and b (including a and not including b).

[8]:
```
def even_number_lst(start, end):
    lst = list(range(start, end))
    even_lst = []
#     even_lst = lst[::2]
    for item in lst:
        if item % 2 == 0:
            even_lst.append(item)
    return even_lst
print(even_number_lst(10, 20))
```

```
[10, 12, 14, 16, 18]
```

Problem 03: Write a function is_Lst_Palindrome(Lst) to check whether a list is palindrome. It should return True if Lst is palindrome and False if Lst is not palindrome

[29]:
```
def is_lst_palindrome(lst):
    reverse_lst = lst[::-1]
    if lst == reverse_lst:
        print(lst, ": is a palindrome list")
    else:
```

```
        print(lst, ": is not a palindrome list")
is_lst_palindrome([1,2,3,2,1])
```

```
[1, 2, 3, 2, 1] : is a palindrome list
```

Program 04: Write a function check_duplicate(Lst) which returns True if a list Lst contains duplicate elements. It should return False, if all the elements in the list Lst are unique.

[55]:
```
def check_duplicate(lst):
    lst_len = len(lst)
    flag = 0
    for i in range(lst_len):
        for j in range(i, lst_len-1):
            if lst[i] == lst[j+1]:
                flag += 1
                return False

    return True

#Sample Test:
lst = [1, 2, 3, 4, 5, 2, 1, 7, 8]
print(lst, end=" ")
print(check_duplicate(lst))

lst1 = [1, 2, 3, 4, 5]
print(lst1, end=" ")
print(check_duplicate(lst1))
```

```
[1, 2, 3, 4, 5, 2, 1, 7, 8] False
[1, 2, 3, 4, 5] True
```

[58]:
```
# Different way

def check_duplicate(lst):
    dup_lst = []
    for i in lst:
        if i not in dup_lst:
            dup_lst.append(i)
        else:
            return True
    return False

#Sample Test:
lst = [1, 2, 3, 4, 5, 2, 1, 7, 8]
print(lst, end=" ")
print(check_duplicate(lst))

lst1 = [1, 2, 3, 4, 5]
```

```
print(lst1, end=" ")
print(check_duplicate(lst1))
```

```
[1, 2, 3, 4, 5, 2, 1, 7, 8] True
[1, 2, 3, 4, 5] False
```

Program 05: Write a program to return prime numbers from a list.

[94]:
```
import math
def is_prime(n):
    if n == 2:
        return "prime"
    else:

        for i in range(2, n+1):
            if i!= n and n % i == 0:
                return "not prime"
            else:
                return "prime"


print(is_prime(4))
```

```
not prime
```

[ ]:
```

```