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# File: MyListFunctions.py
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# Course: CS 303E
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# Description of Program: Building a List Library
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def myAppend(list, x):
    return list + [x]

def myExtend(list1, list2):
    return list1 + list2

def myMax(list):
    max = list[0]
    if(list):
        for i in list:
            if(i>max):
                max = i
    else:
        print("Empty list: No max value")
        return None
    return max

def mySum(list):
    sum = 0
    for i in list:
        sum += i
    return sum

def myCount(list, x):
    count = 0
    for i in list:
        if(i == x):
            count +=1
    return count

def myInsert(list, i, x):
    if(i>len(list) or i<0):
        print("Invalid Index")
        return None
    else:
        list1 = list[:i]
        list2 = list[i:]
        return list1 + [x] + list2

def myPop(list, i):
    if(i>len(list)-1 or i<0):
        print("Invalid Index")
        return list, None
    else:
        list1 = list[:i]
        list2 = list[i+1:]
        return list1 + list2, list[i]

def myFind(list, x):
    ix = len(list)
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    for i in range(len(list)):
        if(list[i]==x and i < ix):
            ix = i
    if(ix == len(list)):
        return -1
    else:
        return ix

def myRFind(list, x):
    ix = -1
    for i in range(len(list)-1, 0, -1):
        if(list[i]==x and i>ix):
            ix = i
    return ix

def myFindAll(list, x):
    Lyst = []
    for i in range(len(list)):
        if(list[i] == x):
            Lyst += [i]
    return Lyst

def myReverse(list):
    Lyst = []
    for i in range(len(list)-1, -1, -1):
        Lyst += [list[i]]
    return Lyst

def myRemove(list, x):
    if(myFind(list, x) == -1):
        return list
    else:
        list1 = list[:myFind(list, x)]
        list2 = list[myFind(list, x)+1:]
        return list1 + list2

def myRemoveAll(list, x):
    Lyst = []
    if(myFindAll(list, x)):
        for i in range(len(list)):
            if(list[i]!=x):
                Lyst += [list[i]]
    else:
        return list
    return Lyst

def mySlice(list, i, j):
    Lyst = []
    if((i>=0 and i<len(list)) and (j>=0 and j<len(list))):
        for l in range(i, j):
            Lyst += [list[l]]
    else:
        return "Illegal index value"
    return Lyst

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