Lab Assignment 1

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# Task 1

**def** shiftLeft( source, k):

**for** j **in** range(0,k):

**for** i **in** range(1,len(source)):

source[i**-**1]**=**source[i]

source[i]**=**0

**return** source

source**=**[10,20,30,40,50,60]

k**=**int(input('Enter the number of cells to be shifted :'))

shiftLeft(source,k)

print(source)

# Task 2

**def** rotateLeft( source, k):

**for** j **in** range(0,k):

a**=**source[0]

**for** i **in** range(1,len(source)):

source[i**-**1]**=**source[i]

source[len(source)**-**1]**=**a

**return** source

source**=**[10,20,30,40,50,60]

k**=**int(input('Enter the number of cells to be shifted :'))

rotateLeft(source,k)

print(source)

# Task 3

**def** shiftRight( source, k):

**for** j **in** range(0,k):

i**=**len(source)**-**1

**while** i**>**0:

source[i]**=**source[i**-**1]

source[i**-**1]**=**0

i**-=**1

**return** source

source**=**[10,20,30,40,50,60]

k**=**int(input('Enter the number of cells to be shifted :'))

shiftRight(source,k)

print(source)

# Task 4

**def** rotateRight( source, k):

**for** j **in** range(0,k):

a**=**source[len(source)**-**1]

i**=**len(source)**-**1

**while** i**>**0:

source[i]**=**source[i**-**1]

i**-=**1

source[0]**=**a

**return** source

source**=**[10,20,30,40,50,60]

k**=**int(input('Enter the number of cells to be shifted :'))

rotateRight(source,k)

print(source)

# Task 5

**def** remove( source, size, idx):

**for** i **in** range(idx**+**1,len(source)):

source[i**-**1]**=**source[i]

source[i]**=**0

**return** source

source**=**[10,20,30,40,50,0,0]

size**=**int(input('Enter the size of the array :'))

idx**=**int(input('Enter the number of cells to be shifted :'))

remove(source,size,idx)

print(source)

# Task 6

**def** removeAll( source, size, element):

j**=**len(source)**-**1

**while** j**>-**1:

**if** source[j]**==**element **and** j**!=** len(source):

**for** i **in** range(j**+**1,len(source)):

source[i**-**1]**=**source[i]

source[i]**=**0

j**-=**1

**return** source

source**=**[10,2,30,2,50,2,2,0,0]

size**=**int(input('Enter the size of the array :'))

element**=**int(input('Enter the element to be removed :'))

removeAll(source,size,element)

print(source)

# Task 7

c**=False**

x**=**[1, 1, 1, 2, 1]

a**=**0

**for** i **in** range(0,len(x)**-**1):

b**=**0

a**+=**x[i]

**for** j **in** range(i**+**1,len(x)):

b**+=**x[j]

**if** a**==**b:

c**=True**

print(c)

# Task 8

**def** array(n):

x**=**[0]**\***n**\***n

i**=**n**\***n**-**1

incriment**=**0

**while** i**>-**1:

element**=**1

indx1**=**i

indx2**=**i**-**n**+**incriment

**while** indx1**>**indx2:

x[indx1]**=**element

element**+=**1

indx1**-=**1

incriment**+=**1

i**-=**n

**return** x

n**=**int(input('Enter the length n :'))

f**=**array(n)

print(f)

# Task 9

**def** max(x):

count**=**1

max**=**0

**for** i **in** range(1,len(x)):

**if** x[i]**==**x[i**-**1] :

count**+=**1

**else**:

count**=**1

**if** count**>**max:

max**=**count

**return** max

x**=**[1,1,2, 2, 1, 1,1,1]

f**=**max(x)

print(f)

# Task 10

**def** repetition(x):

y**=**[0]**\***(len(x)**//**2)

z**=False**

k**=**0

**for** i **in** range(0,len(x)):

count**=**1

**for** j **in** range(i**+**1,len(x)):

**if** x[i]**==**x[j] **and** x[j]**!=**0:

count**+=**1

x[j]**=**0

**if** count**>**1:

y[k]**=**count

k**+=**1

**for** i **in** range(0,len(y)):

**if** y[i]**==**0:

**break**

**for** j **in** range(i**+**1,len(y)):

**if** y[i]**==**y[j] :

z**=True**

**return** z

x**=**[4,5,6,6,4,3,6,4]

f**=**repetition(x)

print(f)