Question 1:

a = [10,20,30,40,50]

b = [0,0,0,0,0]

for i in range(len(a)):

    if i == 0:

        b[i] = a[i] + a[i+1]

    elif i == len(a) - 1:

        b[i] = a[i] + a[i-1]

    else:

        b[i] = a[i] + a[i+1] +a[i-1]

print(b)

[30, 60, 90, 120, 90]

Question 2:

days = int(input("Enter number of days: "))

salary = .005

total = 0.0

i = 0

while i < days:

    salary = salary \*2

    total = total + salary

    i = i + 1

print("Total salary for ", days, " days is: $", total)

Enter number of days: 31

Total salary for 31 days is: $ 21474836.47

Question 3:

def \_encrypt(message):

    for i in range(len(message)):

        print(chr(ord(message[i])+5), end = '')

    print('\n')

def \_decrypt(message):

    for i in range(len(message)):

        print(chr(ord(message[i])-5), end = '')

    print('\n')

\_encrypt("hello world")

\_decrypt("mjqqt%|twqi")

mjqqt%|twqi

hello world

Question 4a:

x = int(input("Enter a number: "))

sum = 0

while x > 0:

    sum = sum + x

    x = x-1

print(sum)

Enter a number: 5

15

Question 4b:

x = int(input("Enter a number: "))

sum = 0

i = x

while i > 0:

    x = i

    while x > 0:

        sum = sum + x

        x = x-1

    print(sum)

    i = i - 1

    sum =0

Enter a number: 5

15

10

6

3

1

Question 5:

if x > 100:

    y = 20

    z = 40

if a < 10:

    b = 0

    c = 1

if a < 10:

    b = 0

else:

    b = 99

Question 6:

vowels = 0

consonants = 0

sentence = input('Enter your sentence: ' )

for letter in sentence:

    if letter in 'aeiou':

        vowels = vowels + 1

    else:

        consonants = consonants + 1

print("Vowels: ", vowels, "Consonants: ", consonants)

Enter your sentence: vowels

Vowels: 2 Consonants: 4

Question 7:

def fib1(n):

    if n == 1 or n == 2:

        return(1)

    else:

        return(fib1(n-1) + fib1(n-2))

def fib2(n):

    i = 1

    while i <= n:

        print(fib1(i))

        i += 1

print(fib1(7))

fib2(7)

13

1

1

2

3

5

8

13