Coding Assessment

Assessment – 1

Distribute Candy

def candy(ratings):

    sum\_val = 0

    if not ratings:

        return sum\_val

    n = len(ratings)

    lc = [1] \* n

    rc = [1] \* n

    for i in range(1, n):

        if ratings[i] > ratings[i - 1]:

            lc[i] = lc[i - 1] + 1

    for i in range(n - 2, -1, -1):

        if ratings[i] > ratings[i + 1]:

            rc[i] = rc[i + 1] + 1

    for i in range(n):

        sum\_val += max(lc[i], rc[i])

    return sum\_val

def max(a, b):

    return a if a > b else b

ratings = [1,2]

result = candy(ratings)

print(result)

Assessment – 2

Best Time to Buy and Sell Stocks I

def maxProfit(prices):

    left = 0 *#Buy*

    right = 1 *#Sell*

    max\_profit = 0

    while right < len(prices):

        currentProfit = prices[right] - prices[left] *#our current Profit*

        if prices[left] < prices[right]:

            max\_profit =max(currentProfit,max\_profit)

        else:

            left = right

        right += 1

    return max\_profit

A=[1,4,5,2,4]

print(maxProfit(A))

Assessment – 3

Stairs

def climbStairs(N):

    if N < 2 :

        return 1

    else:

        return climbStairs(N-1) + climbStairs(N-2)

N=3

print(climbStairs(N))

Assessment - 4

Kth Row of Pascal's Triangle

def kthRow(k):

    my\_row = []

    my\_row.append(1)

    if k == 0:

        return my\_row

    prev\_row = kthRow(k - 1)

    for i in range(1, len(prev\_row)):

        curr\_row = prev\_row[i - 1] + prev\_row[i]

        my\_row.append(curr\_row)

    my\_row.append(1)

    return my\_row

k=3

print(kthRow(k))

Assessment – 5

Repeat and Missing Number Array

def repeatedNumber(A):

    n = len(A)

    sum\_real =sum(A)

    sum\_square\_real= 0

    for x in A:

        sum\_square\_real +=  x\*x

    A\_B = sum\_real - (n\*(n+1))//2

    A2\_B2 = sum\_square\_real - (n\*(n+1)\*(2\*n+1))//6

    A\_plus\_B = A2\_B2/A\_B

    missing = (abs(A\_plus\_B+A\_B))/2

    repeat = (abs(A\_plus\_B - A\_B))/2

    return [int(missing),int(repeat)]

A=[3,1,2,5,3]

print(repeatedNumber(A))