Q1

a. E

b. A

c. D

d. C

e. A

f. B

g. C

h. E

i. B

j. C

k. D

l. B

m. C

n. D

o. D

Q2

(A)

(i) 3 steps for Binary Search.

(ii) Linear Search is used when the list is not sorted. Binary Search is used when the list is sorted. Interpolation Search is used when the list is sorted with systematically distributed elements.

(B)

```
>>> for n in [1, 2, 3]:
        square = n**2
        print(n, "squared = ", square)


1 squared =  1
2 squared =  4
3 squared =  9
```

(C)

(i)

```python
def sum(n):
    s = 0
    for i in range(1, n + 1):
        s += i*i
    return s


print(sum(4))
```

(ii)

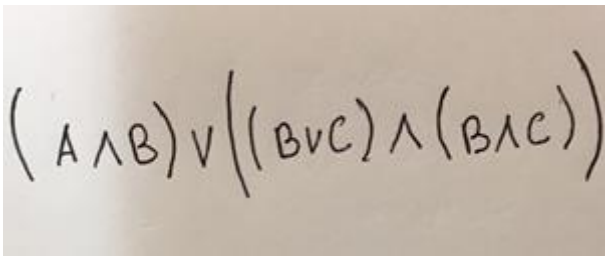
```python
def sum(n):
    if n == 1:
        return 1
    #Base Case
    else:
        return pow(n, n) + sum(n - 1)
    #Recursive Step

```

Q3

(A)

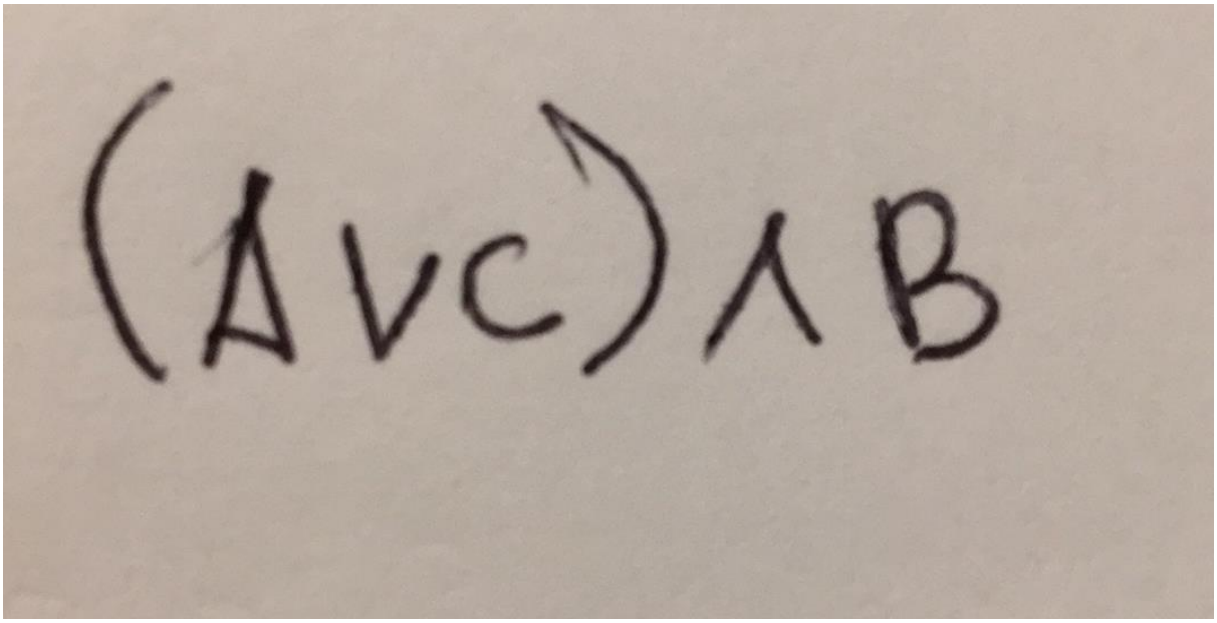
(B)

(i)



(ii)

(iii)



(Q4)

(a)

(i) (1/4) *8 = 2 The expected number of questions Jack answers correctly is 2.

(b)