Question1

First, create an variable n // n to store number of customers.

List Service[n]; // to store service time of each customer.

Using a for loop to store the service customer

Then sort the service list

Ti[n]; // Ti to store completion time of each customer.

```
for(int j=1; j<n; j++) {
      Ti[j] = Ti[j-1] + Si[j];   // calculating finishing time

Sum = 0

for(int j=0; j<n; j++) {
      sum += Ti[j];
   }
//Then calculate the average
Average = sum / n
```

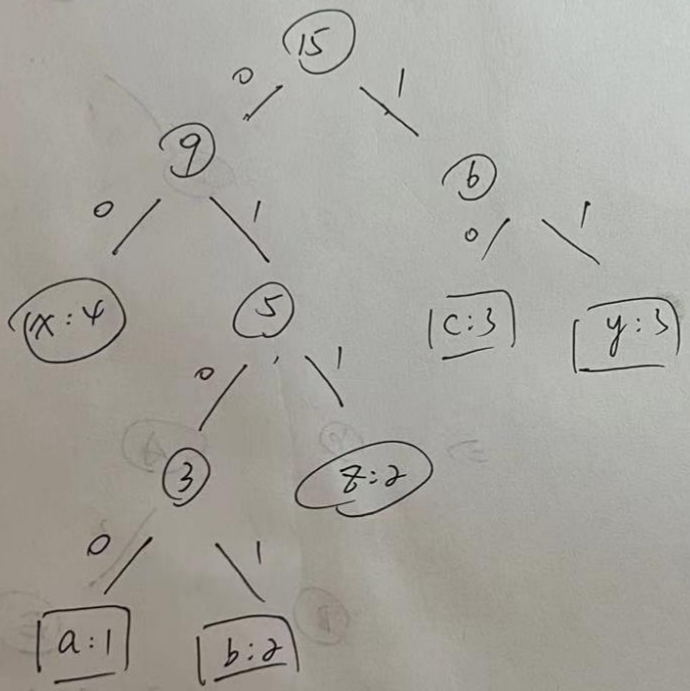
This algorithm calculates the average completion time after sorting in ascending order. As a result, it employs a greedy strategy.

The running time would be O(logn)

Question 2

Question 2.

letter	a	b	c	x	y	z
Frequency	1	2	3	4	3	2



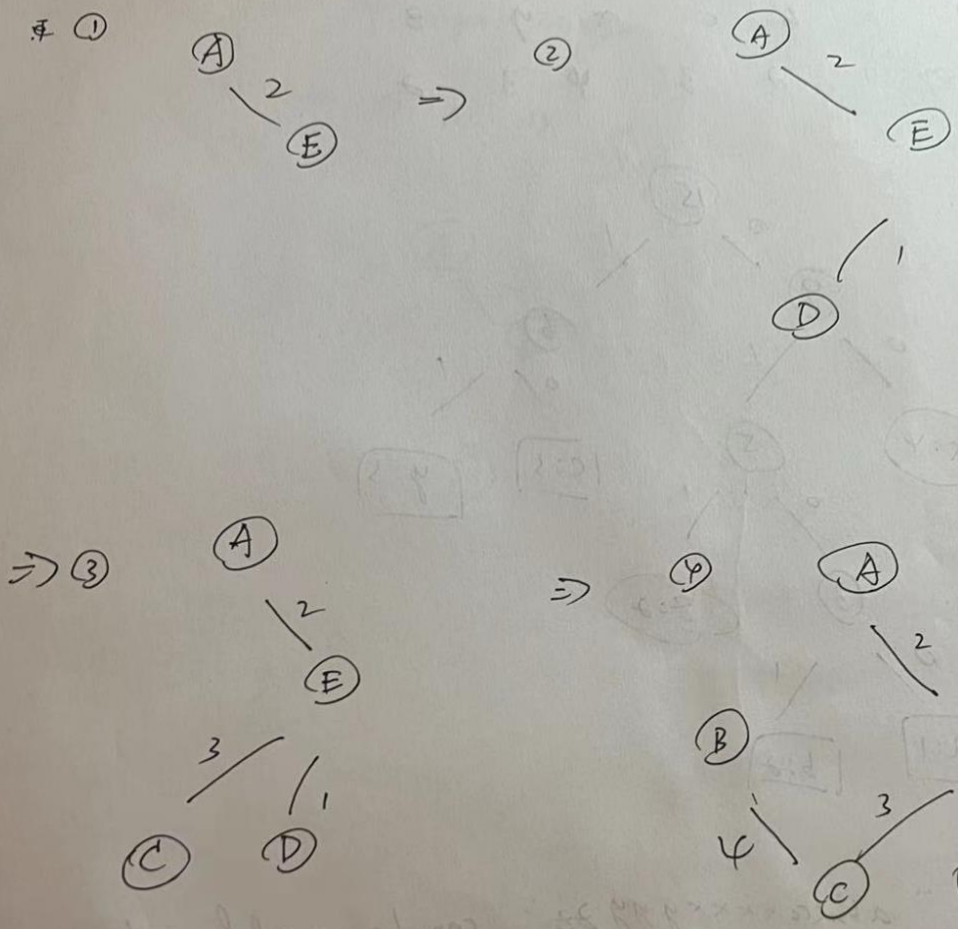
therefore "abbcccxxxxyyyzz" can be encoded into

0100 0101 0101 0101 10 10 10 00 00 00 00 11 11 11 0111 0111.

38 bit.

Question 3

Question 3



Question 4

Question 4.

The order of edges will be

CD ⇒ AE ⇒ AC ⇒ AB.