Week -10(March 27ᵗʰ–April 01ˢᵗ 2023)
Topic: Greedy Algorithms

Q1. Consider that you have an integer array. Present a greedy method to the minimum product possible within the elements present in the array (subset).

Q2. A student can do 'n' activities in a week. Each activity takes a particular number of hours (mention the start time and the end time). Write a program to take 'n' such inputs from user so that a student can schedule maximum number of activities.

Q3. Implement Huffman tree for variable-length encoding. Apply for the following information.

Symbol	Frequency
Q	3
p	23
T	30
a	12
d	18

Q4. A mobile selling outlet sells various types of mobiles. However her shop is very small and can contain only 40 items, in total.

Mobile	Count	Profit
Redme Note 9	10	20000
Samsung Galaxy M12	5	10500
OnePlus 5	26	89000
Realme Narzo 20 Pro	8	4000
Xiaomi Poco M3	12	23000

Present a greedy approach to solve this.

Q5. Each of the states is divided into many districts for administrative reasons. These districts have many neighbors that share their borders. If we want to colour each of the districts is such a manner that adjoint districts (districts that share border) cannot be coloured with the same colour, perform for the following map.