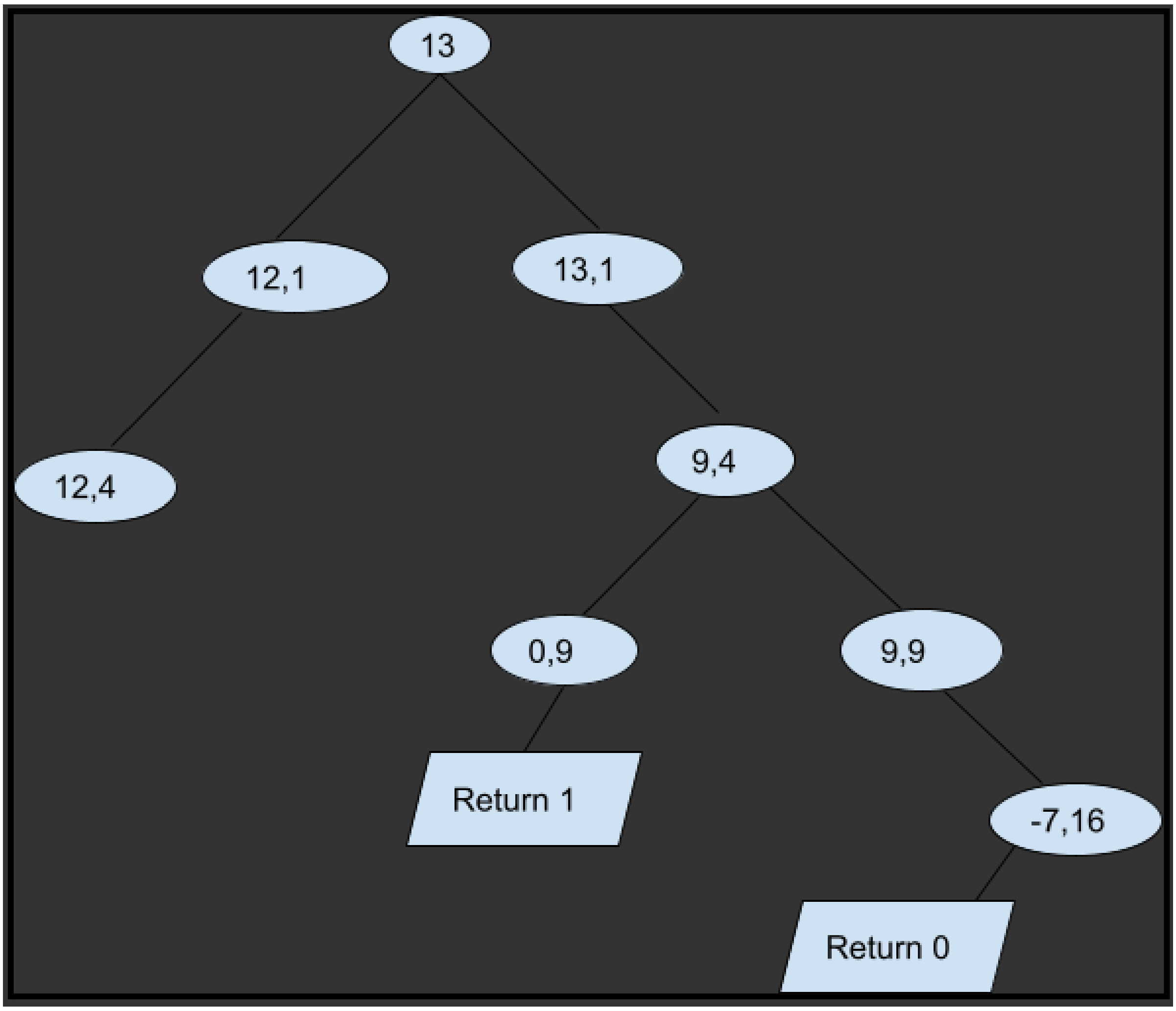
Grading

Approximate the value to the highest nearest 5 ‘s multiple. If the difference between that and the value is less than 3 and the grade is greater or equal to 38. Just roundup that value.

Power Sum

It is solved using the Recursive function. Helper is a recursive function here. The variable value is calculated based on the difference between total and the sum power already found. If the difference is 0 . Then return 1 , which means there is a combination of numbers that are the power sum of total. If the difference is less than 0 then the combination is not possible. Therefore return 0. Otherwise call a recursive method.

```
//first element means that keep the value of the current Number and consider the next number.
//second element means to neglect the current number summation ,and go to the next number.
// It's like a spanning tree
return helper(value,pow,currentNumber+1)+ helper(total,pow,currentNumber+1);
```



caesarCipher

Here I used Stringbuilder to construct a string without using initialising a character array. It is easier to convert to String after modifying it.

Get each element and convert to ascii code. There are 26 letters , therefore we can deduct ‘A’ from the character and add a shifting number. Divide by 26 and get the remainder and add it to ‘A’.

Same for ‘a’- ‘z’

LeaderBoard

Ranked players are in descending order and players are in ascending order. Therefore we will start from taking the largest value in the player’s scores and compare them with the ranked score. If a player's score is larger than the current ranked score, then it will add to the position. Therefore the rank number starts from 1. If it is not larger than the current ranked score, then the current rank number will be added by 1 .

Finally the rank list of new players is reversed.