Task 1:

In Main function I get length of an array from user. It must be strictly between 1 and 1000. If user gives wrong input program exit. After user gives data which should be between –1000 and 1000. If there is wrong data I decrement the counter and user should give data again. In “CountNumbOfRepeated” function I sort an array and check if the value of I equal to I+1. If they are equal I increment the counter and if they are not equal I add counter+1 to “numbOfRepeated” list. For example arr =[1,2,2].

If arr[0]!=arr[1] it means counter is still equal to 0. By incrementing the value of counter I add the real value of same data of an array. In “CheckSameNumbers" function I check “numbOfRepeated" list. IF there same numbers it means program should return false.

Task 2:

Recursive way:

I have returnText(int number, string myText). I send number to returnText and empty string. If remain is equal to 0 which meanz number is equal 26(Z) I equalize remain to 26. If number >=27 I divide find whole part of division number to 26 and recursively call returnText. Every time it goes till the number <= 26 and with transferring ascii to String equalize myText to related string. With this method there is no need for Reverse text.

Iterative way:

I have returnSecondText(int number, string myText). I send number to returnText and empty string.Inside while loop which condition is that number should be great 0 I check the remain. If remain is equal to 0 which meanz number is equal 26(Z) I equalize remain to 26. After with transferring ascii to string I equalize the result to myText. At the end I reverse my myText string.

Task 3:

In task 3 I use 2 functions countMinCombination and countMaxcombination. In both of them there are nested for loops. First for loop finds first maximum number. Second for loop finds first Maximum number which is greater then maximum number of First Loop. Third for loop finds numbers greater than max number of second and each time increment outputCounter. Inside this loop I also max numbers founded by each loop to customCombination list which contains inside 1d array with the length of 3 numbers.

Task 4:

In task 4 I use 4 functions for checking covid test. In best case scenario it returns answer after 3 weeks in worth case scenario 4 weeks. First I gave to each test 100 drop of sample. For example if 331 index is COvid positiv. In first function which called as CheckCovidPositiveFirst I check samples between 0-100,100-200 and ect. When tube id is equal to 3 which check between 300-400 positiv result will occur. I decrease possible covid positive people to 100 and test tube to 9. Then in CheckCovidPositiveSecond I gave to each test tube 11 drop and to last tube 12. With this function I Decrease number of possible covid positive people to 11 or 12 and amount of test tubes is equal to 8. In checkPositiveThird I check first 7 drops ony by one and if there is positive I return the result which is best case scenario. But if covid positive in last 4 or 5 drop I call checkPositiveFourth and check them one by one and return result.