Task 1

The code first takes two files of input1.txt and out.
txt. Then it reads the number of cases and the
number is stored in T. Then Next line reads the
first file and store it in a list called h. alien – co
method is used to count the number of pairs o-
aliens where first alien is taller than 2nd alien.
Then it calls the function and stores result in
count. Then it closes the file.

Task – 2

The time complexity of the max _s_s2() method
$O(n)$ as n is the number of element in the list.
function iterates the list once. And time comple
of read() and write() function is $O(n)$.
Thus, the total time complexity is $O($

Task - 3

The code opens input3.txt and output3.txt. They are used to store input and output data. Then it reads the number of cases and stored it in T. The quick() is a method to sort the list using Quicksort alogurithm. It partition the list into two part. The 2nd part() function is a function used by quick() to devide the list. At last, code calls quick function to sort the list. Then we close the files.

Task - 4

Firstly it opens input and output file. Then it reads the number of cases and it is stored in T. Then it reads the number of queries from input.txt and stored it in I. Then it read the queries and stored it in list2. part() is used to sort the list using quicksort Algorith. find min() is used to find kth smallest element in array. Then we call the methods, And we close the files.