Task 1

a) The code here reads ~~integers~~ an array from the file provided, and then seperates the array into individual integers according to line. It then goes through this set of integers one by one, determining if it is even or odd along the way, writing the answer in the output file.

b) The code here reads each line from the input file, and then seperates each individual line by the spaces between each word, operators and integers, ~~after which they are~~ after which they're used to solve the arithmetic operation specified, with the answer being ~~outputted~~ into an output file.

Task 2

The code here is a bubble sort algorithm used to sort algorithms provided in the second line of the provided text files. The sorting process is done through a loop, which is kept going until the 'sorted' condition, with the loop breaking once there is nothing left to sort.

Task 3

This code has two functions, with the 'insertsort' function being the main key to solve the task at hand. The 'calculateMarks' function takes an input file and the length of the data stored in the file, and extracts two separated strings from the file, representing ID and marks, before combining them all as pairs within a list. The list is then used by the 'insertsort' function, which sorts the data in the list based on marks in descending order by comparing the current sub-list in the loop with the one to its left.

Task 4

This code uses the insertion sorting method to sort the train data provided in the input file based on criteria extracted using a loop like name, destination and time. The extracted data is then sorted first in a lexicographical order, then the latest departure time based on a certain priority basis.

The sorting is then performed within a while loop, comparing the data in the current loop to the one on its left, sorting until the correct arrangement is found.