Programming 2 – U1T2

Implement classes Tram which represents a tram described by selected data and class Depot which stores Trams.
For the classes declare and define methods such given main function will work.
(Do not modify main – except adding own tests if needed.)

Part 1 (2p)

Tram fields describe unique ID number of instance, current operating line number and home depot.

Implement constructor for Tram(char*) which:
- takes one parameter (char*) and set member depot_name[] to given parameter value,
- set line number to **-1**,
- give unique number based on total Trams counter, number cannot be changed after setting
- set status field to **'o'**ff (character 'o')
- increment total trams counter

Class field status can be set to values (first character only stored) : **'r'**eady, **'w'**orking, **'f'**ailure **'o'**ff. After constructing it should be set to off. Switching to states **'w'**orking, **'f'**ailure should increment total number of trams in use, being in **'o'**ff and **'r'**eady does not affect total number of trams in use.

Implement Methods:
- int getID() which return unique train number.
- char getState() - which returns state letter code
- int getInUse() – which inform about number of working trams;

Part 2 (2p)

Implement Tram class methods:

void Prepare(int) which perform:
- set line number
- set state to ready

void Run()
- increase number of trams in use
- if unique id is even set status to **'w'**orking
- if unique id is odd set status to **'f'**ailure

void returnDepot(char*) which set new depot Name;

Function void check(), which check state and in case of failure ask set new default Depot (="Praga") for tram which state is : **'f'**ailure

Part 2 (2p)

Implement class Depot and methods.

Class Depot's constructors sets name to depot instance and initialize ,,address slots'' for trams;

Implement operator+= which add tram at the first free slot

Implement method send_first) which prepare and run tram from first not empty slot – lines numbers are incremented in subsequent method calls.

Implement operator<< which print information about Depot and trams which are currently in depot.

Example output: