As a developer for a mobile telecoms provider, Initech, you have been tasked with creating an in-memory rules engine for calculating customer bills.

The engine should be capable of consuming a list of service plans at runtime (you can select an input data format that you are comfortable with from either CSV, XML or JSON).

The currently available service plans are detailed below, however it is a requirement of the product that new plans can be added without any code changes being required.

- Each plan has a flat monthly cost which includes a set number of free minutes & text messages
- After they exceed their included allowance for calls, additional minutes are charged according to price tiers
  - The 1st tier of minutes is charged at a defined rate per minute
  - If this amount is exhausted then a second tier of minutes are charged at a lower defined rate per minute
  - If all tiers are exhausted further calls are charged at a flat rate per minute
- After they exceed their included allowance for texts, additional text messages are charged at a flat rate per message

	Monthly Cost (£)	Included mins	Included Text messages	1st Tier mins	1st Tier rate (£)	2nd Tier mins	2nd Tier rate (£)	Follow on flat rate per min (£)	Follow on text message cost (£)
Gold	30	1000	800	500	0.08	400	0.06	0.05	0.07
Silver	20	500	400	300	0.1	150	0.08	0.06	0.09
Bronze	10	200	100	150	0.12	75	0.1	0.07	0.11

Using your application, the billing clerk should then be able to select the service plan and input details of the customer's monthly usage of minutes & text messages in order to calculate their total bill amount.

E.g. A customer on Gold plan who uses 1550 minutes and 802 text messages should have a bill of £73.14.

(£30 monthly cost + (500mins @ 0.08each) + (50mins @ 0.06 each) + (2 texts @ 0.07 each))

You may complete this in C++. You may bring your own laptop to demonstrate the application or we can provide access to an AWS Cloud9 environment where the app can be compiled and ran. (Please confirm if this is required in advance)