

a A small company is unlikely to need something highly customised that no other company in the world needs. The cost of designing, testing and maintaining a custom piece of software is unlikely to be worthwhile for a small company.

On the other hand an off the shelf application with some customisation is going to be cheaper, quicker to set up, easier to maintain and possibly more reliable. ~~More~~ Upgrades will be released by the company instead of a software developer being paid.

b ; The primary advancement that's taken place ^{to} ~~just~~ allow open source development is the internet. Open source software can be downloaded free (without even the cost of packaging and a CD/disc) by a huge audience. And anyone can make available to the whole world their improvements.

Developments in broadband technology ^{it possible to share} make things like full Linux versions of 5 CDs.

The new way programming languages work has also meant that more people can program and hence contribute to projects.

ii Relying on people from all over the world who are getting no reward for their efforts is not a great way to manage a project team. When code from different programmers is being used, and one can't go on without the other, problems could arise. Dead lines will mean nothing to people not getting paid.

There's also the possibility of language barriers between parties. They won't be able to discuss what they're working on.

c i ~~Memory~~ Mem b is being used to store the accumulating value

ii Mem b = Reg 3 and Reg 3 is the sum of Reg 1 and Reg 2, which contain Mem 5 and Mem 6 respectively. So the value of Mem b is $30 + A1 = D1$

iii Reg 3 = D1

$$\text{decimal} = \frac{D \times 16}{16} + 1$$

$$D = 13$$

$$\text{decimal} = \frac{16 \times 13}{16} + 1 = \frac{48}{16} + 1 = 209$$

Decimal value is 209

iv

LOAD (Reg1, Mem5)

LOAD (Reg2, Mem5)

ADD (Reg3, Reg1, Reg2)

ADD (Reg1, Reg2, Reg3)

STORE (Reg1, Mem7)