



Section 2  
Question  
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a)

The custom designed solution would generally be better for the small business, as the needs of the business are directly satisfied with the structured <sup>approach</sup> ~~approach~~ to providing a solution. As the software only needs to hold company data, a simple customised spreadsheet program would suffice for the company's needs.

An off the shelf product such as Microsoft Excel would be a very good solution for the company. The software is very easy to customize and has many features that small businesses can utilize to help track and record their company data.

b)

i) Hardware: In terms of file sharing the internet, modems, networks, have all had

undergone significant increases in performance over the last 5 years. Internet connections such as ADSL which runs on a standard phone line provide many people with extremely rapid upload and download rates, making file sharing a lot easier. Most hardware can now support a broad range of ~~the~~ software, so that developers of code can share and use code ~~from~~ ~~are~~ that were created on different makes and models of machines.

Software currently also supports many ~~diff~~ different file types, the ability to handle the vast array of files enables users to share and use data much more freely.

Now the combined use of high ~~perform~~ performance software and hardware enables code to be shared around the world and to be used in

various open source software products.

ii) Project management can be disrupted by the use of open source code.

The flow of data into a project can be quite irregular, with times of large amounts of code being acquired then having periods where no new code is gained. Thus the transition through the phases of the software development cycle can be hindered, a smooth flowing procedure is not attained.

Also certain pieces of code may be useful to a programmer, but they might have to translate the "key" words to match the existing code they already have, so that the software works well together.

c) ~~Memory~~ MemB is being used as an accumulator; the contents of Reg1 & Reg2 are being stored in Reg3 which is then being stored in MemB

ii) The hexadecimal contents of Mem6 are 30 + A1, that is the result of the 3rd and 4th lines of code that are executed.

iii) The value in Reg3 is the addition of the values of Reg1 & Reg2

Load (Reg1, Mem5)      Regn = 30  
          n      30

Load (Reg2, Mem6)      Regp = A1  
          p      A1

Add (Reg3, Reg1, Reg2)  
          Regm = 30 + A1

Store (Reg3, Mem6)  
          30 + A1 = Mem6

Stop

iv)

Address	Contents
Mem5	30
Mem6	3
Mem7	0

continued in 2nd booklet

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c) iv)  
continued

Load (Reg 1, Mem 5)

$n = 30$

Load (Reg 2, Mem 6)

$p = 3$

Multiply (Reg 3, Reg 1, Reg 2)

$$n = \frac{n}{30} \times \frac{p}{5}$$

Store (Reg 3, Mem 7)

$$n = 30 \times 5 = 150$$

Step