

## Software Design Section 2 Question 22

(22)

Interface

a) i)

Entering Transaction Data

I-POX

Please enter the  
Stock Number and  
Quantity

Label

Stock Number

UPDATE

text box

command button,  
updates transaction  
file and clears the  
text boxes

Label

Quantity

text box

Back to Main

command button, goes back  
to main screen after  
entering 999 as the stock  
number and therefore closing  
the transaction file.

ii) IPO Diagram

INPUT

Stock Number

OUTPUT

Quantity

PROCESSES

Stock number, Item  
Description, Quantity  
on hand and Unit  
price

Calculates quantity of  
hand (current number -  
quantity from input)

using stock number as  
an index

a) iii)

BEGIN UPdate Inventory.

Open InventoryFile as ~~random~~

read stock number

read quantity

if stock number  $\neq$  '999' then begin

~~Inventory~~ current stock Check Stock Number (stocknumber)

current quantity = InventoryFile [Stock Number]

current quantity = current quantity + quantity

Update Inventory File

Check Quantity (current quantity)

read stock number

read quantity

end if

END

BEGIN Check Stock Number (stockno)

~~found = false~~ True

if InventoryFile [stockno]  $\neq$  null then

~~found = false~~ print "That stocknumber is not valid"

end if

END

BEGIN Check Quantity (quantity)

if Inventory File

if quantity > 3 then

print "There are less than 3 in stock"

end if

END.

b) Two types of documentation are the Gantt Chart, which is developed during the planning stage of the development cycle and used throughout, and the technical documentation which is developed during the building and testing stages and used during the modify stage.

Gantt Charts give a timeline of when each aspect of the software solution must be begun and completed. These are used throughout the development cycle but particularly using the

building stage. These are useful as they keep programmers on track and within the desired time frame - which is especially important during coding.

Technical documentation includes data dictionaries and diagrams which may be needed after the program has been complete. These are useful during the modifying and maintenance stages of the development cycle because usually other programmers work on maintaining the program and may need to learn about the project through the technical documentation.