Q22.

a)

i).

```
┌─────────────────────────────────────┐
│  TRANSACTION FILE            │X│     │
│                                      │
│   STOCK NO.      ┌─┬─┬─┐             │
│                  └─┴─┴─┘             │
│                                      │
│   QUANTITY       ┌─┬─┬─┬─┐           │
│                  └─┴─┴─┴─┘           │
│                      ┌───────┐       │
│                      │ RESET │       │
│                      └───────┘       │
│                      ┌────────┐      │
│                      │ UPDATE │      │
│                      └────────┘      │
│                      ┌──────┐        │
│                      │ EXIT │        │
│                      └──────┘        │
└─────────────────────────────────────┘
```

ii)

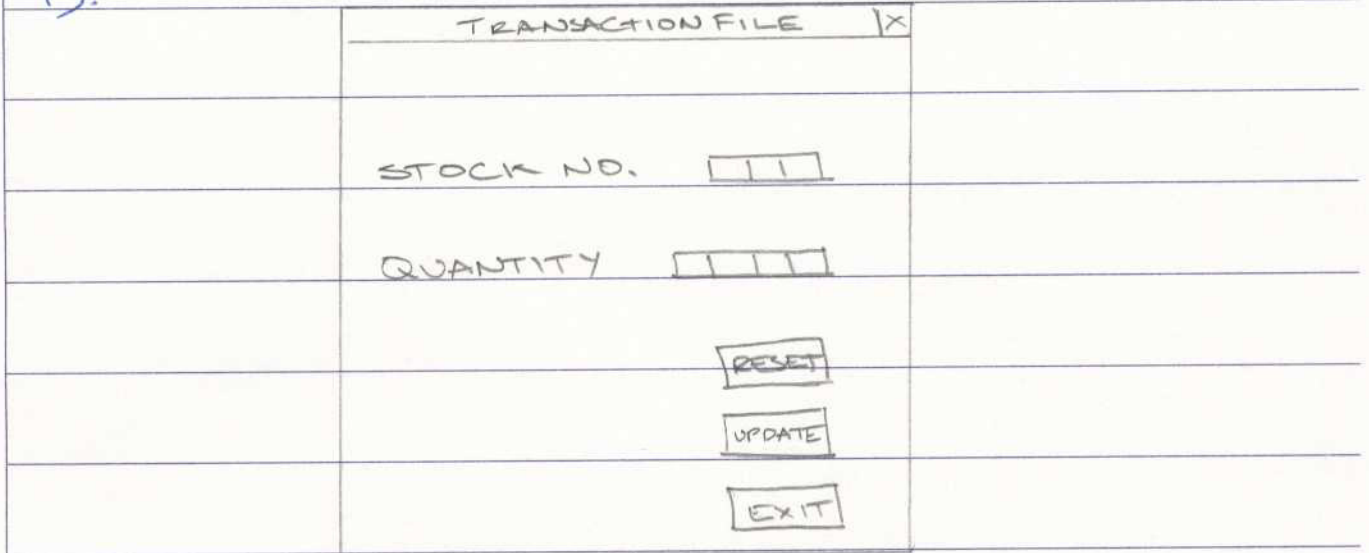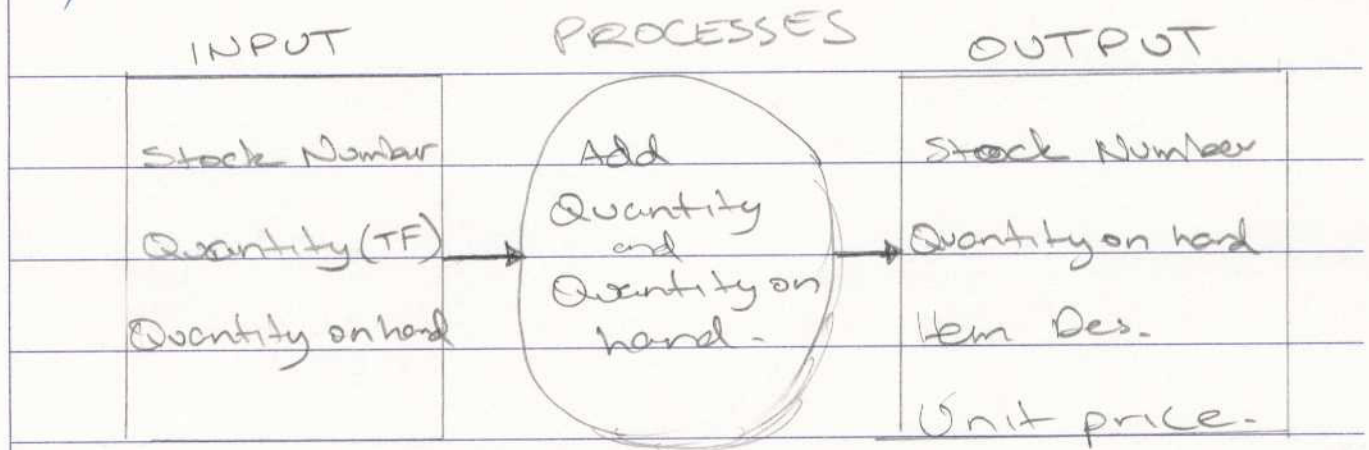| INPUT	PROCESSES	OUTPUT
Stock Number	Add	Stock Number
Quantity (TF)	Quantity and	Quantity on hand
Quantity on hand	Quantity on hand.	Item Des.
		Unit price.

iii)

BEGIN MAINPROGRAM.

    INITIALISATION.
        Inventory-file is a record
        Inven-Stock is an integer

        Item-des is a string.

        Quantity is an integer

        Quantity-on-hand is an integer

        Trans-stock is an integer.
        Trans-file is as 2D array.
        Unit-price is a floating point.

    END INITIALISATION.

WHILE there are still items in transaction file

    Update inventory-file from Trans-file

ENDWHILE

END MAINPROGRAM.

BEGIN subprogram (update inventory_file from Trans_file)

REPEAT

    Stock = 1.

    Inventory_file. Quantity = Inventory_file.Quantity + Trans_file.Quantity

    IF   Inven_Stock <> Tru Trans_Stock

    THEN print "A match between stock numbers cannot be found"

    ELSE print "The stock has been updated"

    IF Inventory_file.Quantity < 3.

    THEN Print "You need more Stock"
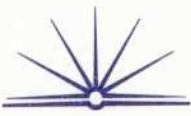
    ELSE Print "You have plenty of Stock"

UNTIL There are no more stock items.

END subprogram.

b) In the designing stage of the software development cycle internal documentation needs to be created when programmers ~~do~~ are creating the code. Such documentation such as intrinsic documentation is need so that understanding the code and following the algorithms is much easier. Meaningful names of variables etc help when coding the algorithm. Also comments beside parts of code is internal documentation as these will assist other programmers when they look at the source code as to what the code actually does.

In the ^{testing & evaluating} ~~implementation~~ stage of software development, online documentation is needed as online documentation helps the users when they try and use the new program.

⑤

Help files, with tutorials and search options allow the users to get out of trouble when they are unsure what to do. Balloon text is also helpful as text messages in "balloons" are displayed over objects which the user may be unsure about.