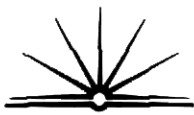Q22

a) i) Outsourcing is where a company employs people external to the companies employees, for a limited time, or until a task is complete. It has advantages for the company of no long-term employees, but can get complicated if problems arise, and the people who did the task are no longer in business.
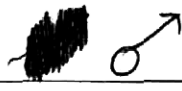
ii) The outsourcing of this software has many implications. The foremost is the fact that the outsourcing company is creating software that affects finances, on a secure network. The ethics of the team creating the software must be considered — they may leave a 'backdoor' or hole in the network which they can then access from outside the internal network. The outsourced team must also endeavour to make the network secure, so peoples money is on the database. Finally, the decision to outsource may affect moral in the large bank, with employees growing resentful towards the program.
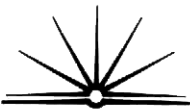
iii) During the software development, a number of different testing stages must be ~~chosen~~ taken to ensure reliability. Peer and desk checking of the source code should be employed. Once compiled, test data using expected and returned values should be used to ensure the logic of the program is correct, and ~~any~~ any errors corrected. Once these stages have been completed, alpha, and then beta testing can be undertaken.

Alpha testing will allow the developers to quickly identify any problems with reliability, by watching people enter 'real' or 'live' test data. Beta testing can also be used but this time without the developers actually watching the program being run, and any problems can be found and fixed. These testing stages will ensure reliability.

b).i) ▓▓♂↗ — parameters that are passed between modules of a system, the arrow indicating which direction they are going

↗ - control parameters, often flags. These parameters control the system, but are not passed throughout each module. The arrow indicates where they are going

ii) Customer Number ≠ 0.

~~The customer number is check 0~~

line 9   WHILE NOT CardInsbt

This error will cause no cards to be read, as even when CardInslot = TRUE, the pre-test of Not CardInslot will not recognise the change from false to true

line9 should read

WHILE CardInslot = ~~TRUE~~ FALSE

iii)   BEGIN   Accept And Validate Password (stored Password, Validated)

UserPass = " "

Fail = 0

~~FHFe Fhse~~

Input "Enter Password"; UserPass

IF UserPass = storedPassword

THEN PRINT "Correct"

Validated = TRUE

ELSE

UserPass <> Stored Password
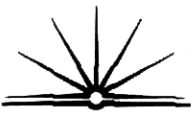
Fail = Fail +1

REPEAT

Input "Enter Password"; UserPass

IF UserPass ≠ stored Password

Next Booklet!

(ii) BEGIN Accept And Validate Password (Stored Password, Validated)
   Validated = False
   User Pass = " "

   Fail = 0
   WHILE Validated = False
   REPEAT

   Input "Enter Password"; User Pass

     IF User Pass = Stored Password

       THEN PRINT "Correct"

         Validated = TRUE

       Else Fail = Fail + 1
         PRINT "TRY AGAIN"
   UNTIL Fail = 3

   ENDWHILE

   IF Fail = 3

   THEN PRINT "ATM has shredded your card"

   ENDIF

   RETURN VALidate

END Accept And Validate Password.

Reliability
- checks, flags, stubs
- test date
- implementation