Q23

a) i) The error is located on lines 12-13, by setting SystemStatus = "OFF". This line is run whenever a message with a MessageHeader other than "EVENT" or "TICKET" is read. The change in the value of SystemStatus to "OFF" terminates the loop between lines 5-17, and ENDs TicketSystem.

ii) Line 12 of the program should be altered to read:

12 ELSEIF MessageHeader = "SystemStatus = 'OFF' " THEN.

Alternatively, the selection structure on lines 10-14 could be split into two separate binary selection structures.

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a) iii) - The first class of message is the MessageHeader. This message is in the form of a String.
- The second class of message is the event demanded, in EventName, which is also in the form of a String.
- The third class of message is the NumberTicketsSold. This value is stored as an integer.

(iv) ~~MESSAGEHEADER~~ Event lastEvent
Number Number

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a) iv) Desk checking ProcessTicket:
using test data EventTicketsAvailable = 5,
NumberTicketsSold = 10:

EventTickets Available	Number TicketsSold
5	10
-5	
-10	

① The system sells more tickets than it has available.

② The system continues to sell tickets even when it has run out already.

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(b)
```
BEGIN ProduceReport
    DIM TicketArray (EventNumber AS Integer,
      EventName AS String, TicketsSold AS Integer)
                                  AS Array of Records.
    OPEN EVENT File.
    Counter = 1.
    DO UNTIL EndOfFile (EVENT)
        READ EventNumber, EventName
        TicketArray (Counter, 1) = EventNumber
        TicketArray (Counter, 2) = EventName
        Counter = Counter + 1
    LOOP
    CLOSE EVENT File.
    OPEN TICKET File
    DO UNTIL EndOfFile (TICKET)
        READ NumberOfTicketsSold, EventNumber
        FOR index = 1 TO Counter
            IF TicketArray (index, 1) = EventNumber
            THEN
                TicketArray (index, 3) = Ticket_
                  Array (index, 3) + NumberOfTickets
                                       Sold
```

Cont →

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(b) cont.

```
            ENDIF
            NEXT index
        LOOP
        CLOSE Ticket File
        FOR index = 1 TO Counter
            PRINT "Event Number:" + TicketArray(index,
                                                1)
            PRINT "Event Name:" + TicketArray(index, 2)
            PRINT "Tickets Sold:" + TicketArray(index, 3)
            PRINT
        NEXT index
    END ProduceReport
```

// Note: There was no need to write a sort algorithm, as the EVENT file was already sorted by event number prior to processing, and was entered into the array in this order.

c) Video documentation involves recording and storing help for the users as animated or video media. This could include a video of a person explaining the operation by demonstrating, or a tutorial with an on-screen display. Video documentation is often extremely effective in teaching users to learn the application and many specific functions, but lacks detailed explanations.

Online Help involves documentation and help that appears on the screen as you are using the application, such as balloon text, pop-up messages and prompts, and a 'wizard'-style user interface, featuring step-by-step explanations. Online help

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c) cont.

is extremely effective.

Online Help is the most suitable option for the Event ticket agency's remote terminals. At every stage of the process of buying tickets, users can be provided with relevant, on-screen explanations of the specific functions of the application, and its function and purpose. Balloon text can be used to explain the function of each command, button, or screen element.