

a) (i)

Number Of Trains	Train	X	Y	while Number Of Trains
0	1	Location x	Location Y	= 0, the process should not proceed.
	2			
1	1	Not Processed	Not Processed	

Number Of Trains	Train	X	Y
2	1	Loc x	Loc Y
	2		

- (ii) When the number of trains = 0, the WHILE loop should not proceed, when in fact it does as shown by the desk check ($1 \neq 0$). When there is one train the program WHILE loop should proceed, but does not as the number of trains = Train. Finally, when there are 2 Trains, the desk check reveals that only one of the trains is processed, as the second time round, Train = 2 and Number Of Trains = 2.

(iii) I would modify line 4 to make it a post test loop rather than a pretest loop, but first I would insert a line above line 4 ~~at~~ stating:

IF NumberOfTrains < 0 THEN.

The final algorithm would look like this:

BEGIN DisplayTrain

read NumberOfTrains

Train = 1

IF NumberOfTrains < 0 THEN

REPEAT

ReadTrainID (TrainID)

ReadLocation (TrainID, Location X, Location Y)

DisplayTrainID (TrainID, Location X, Location Y)

Train = Train + 1

Until Train = (NumberOfTrains + 1)

END IF

END

The above modifications ensure that the program will operate correctly-

b) If the team member who downloads a run-time component has not checked for manufacturer the licence details for that piece of code, nor has he acknowledged its source or author. This is plagiarism due to his lack of acknowledgement the code appears as his own work. The code which is intellectual property of the manufacturer has automatic copyright and may have possibly been registered or patented. Plagiarism is illegal and the author could prosecute him on these grounds.

ii) To prevent the software team from being irresponsible, management could ask for documentation covering the whole development cycle to prove that their work is original. Their process diary would note any code borrowed from other sources and would fully acknowledge it including website, author, company, licensing information etc. Also, the versioning of the software would allow management to see how the project progressed and what strategies were used to develop the software, proving the authenticity of the program. Old versions could be decompressed to show the code history of the program. Regular project reviews could also be instated to show progress and any discrepancies could be checked by management. Management could also run an ethics course or workshop reteaching the software team concepts such as plagiarism, bias, inclusivity and intellectual property.