**Exercise 1:**

An unnormalised staff relation in a software company has the following structure.

Some data entries have been given as illustrations.  Each programmer works at his own workstation computer on a number of software programs.  Each particular program is written in one language.

### *Staff*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Programmer | Programmer   Number | Workstation | Make | Program Number | Language |
| Smith | 0016 | X194 | IBM | CS01 | Java |
| Smith | 0016 | X194 | IBM | CS43 | Java |
| Smith | 0016 | X194 | IBM | CS213 | V Basic |
| Patel | 1005 | L29 | Siemens | HS57 | VBasic |
| Patel | 1005 | L29 | Siemens | HS82 | Java |

1. What are the problems likely to arise in this structure?
2. Indicate the functional dependencies in the Staff relation.  If you need to make further assumptions you  
   should state them clearly.
3. Obtain a set of Second Normal Form relations from Staff.

What problems remain with these Second Normal Form relations?