Minicase:

1. 1. simple linear ﬁle
   2. {00536, John Smith, 009, USA, Purser}
   3. 000-999, could be more if they increase the character count. Can’t be negative
   4. Must be at least 1 character. And should represent a countries name or acronym.
2. 1. 



* 1. 
  2. 
  3. 
  4. 
  5. 

1. No it does not, each time it is referring and relating the ship number with 4 unique entities and in the ship table it is listed as the ship itself and relates it to other attributes of that ship.
2. 
   1. In terms of data redundancy there is a lot of that. The ships and all of the ships details info are being restated 3 or 4 times for most of the ships. Not ideal for storage.
   2. Data integration is ok. Seeing the sailors and the ship name that they are sailing in can be useful but knowing the year and weight of the ship is not relevant to the sailor or any of their attributes.
3. To be able to link the crew member to a specific ship that they sail on.
4. It appears 4 times and is because each one of those sailors is a sailor on that ship
5. 1. 1
   2. 1
   3. 2
6. Go to the sailors table and read the sailor number 00536’s Ship number attribute. Then use the result from that read to find that ship number in the ship table. Read the corresponding weight.
7. Linking each crew member with a ship number that he or she is on.\