**Question Title**

8. Consider a software utility called ‘***bq***’ that allows the user to read runtime, persistent data structures.  
  
Commands:

|  |  |
| --- | --- |
| **bq** | Starts utility from linux command prompt |
| rel <relation name> | Specify which data structure, also known as a relation, to access |
| di | Display data structure of relation identified |
| key key <key values> | Request system to prompt for key values for the relation identified, or specify the key to read |
| re k | Read the record associated with the key value identified |
| re f | Read the first record |
| re l | Read the last record |
| re n | Read the next record |
| re p | Read the previous record |
| x | Exit the utility |

Upload into your **Github** / **Gitlab** or **Bitbucket** account a solution for the following problems:

**Problem #1**  
I have a relation ABC.   
  
What are the sequence of commands to determine its structure?

**SOLUTION**

**The command list:**

|  |  |
| --- | --- |
| **Command** | **Explanation** |
| **bq** | **Start the linux application** |
| **rel ABC** | **Determine the structure** |
| **x** | **Exit the utility** |

**Problem #2**

|  |  |
| --- | --- |
| **I have a relation XYZ.   Its structure is noted to the right** | XYZ =  { file (B1) of } record   B1   : integer;     { block number   B1   Name : Char8;       { B1 name end; |

What are the sequence of commands to read the first and last records of relation XYZ?

**SOLUTION**

**The command list:**

|  |  |
| --- | --- |
| **Command** | **Explanation** |
| **bq** | **Start the linux application** |
| **rel XYZ** | **Determine the structure XYZ** |
| **re f** | **Read the first record** |
| **re l** | **Read the last record** |
| **x** | **Exit the utility** |

**Problem #3**  
Continuing with relation XYZ  
  
What are the seuquence of commands to read key value 10 and the next 2 records?

**SOLUTION**

**The command list:**

|  |  |
| --- | --- |
| **Command** | **Explanation** |
| **bq** | **Start the linux application** |
| **rel XYZ** | **Determine the structure XYZ** |
| **key key 10** | **Especify key value 10** |
| **re k** | **Read the record associated with the key value identified** |
| **re n** | **Read the next record** |
| **re n** | **Read the next record** |
| **x** | **Exit the utility** |