1. What is vertical and horizontal partitioning of database tables? What is the difference regarding allocation?

2. Given the following dates, compare the different requirements for storing the cube in MOLAP- or ROLAP:

   (a) 1 fact; 3 dimensions with 1000 values each; fill degree 20%; 1 attribute = 8byte
   (b) 1 fact; 5 dimensions with 1000 values each; fill degree 20%; 1 attribute = 8byte
   (c) 1 fact; 3 dimensions with 1000 values each; fill degree 50%; 1 attribute = 8byte
   (d) 1 fact; 5 dimensions with 1000 values each; fill degree 50%; 1 attribute = 8byte

3. Explain the functionality of dwarfs for storing a cube. What is the benefit?

4. Discuss important properties of row- and column-stores concerning the following aspects:

   (a) Usability for Online Analytical Processing
   (b) Compression techniques
   (c) Query execution

5. Discuss materialization strategies for column stores.