Summary of concepts reviewed this chapter,

1. vectors are objects that describe location in space.
   - physical
   - space of data
   - param space of params of a function.
2. definitions of vector addition and scaling.
   - inversion (by $-c$)
3. magnitude / modulus of a vector.
4. dot scalar product
5. vector projection product.
6. vector spaces
   - bases
   - dimension (num. of. linear independent vectors).
   - independence vs. dependence (linear combination).
7. Changing bases – when new basis are orthogonal.
   - via vector projection product
8. How change of basis relates to extracting feature vectors from data.
   - How to model a datapoint using a vector.