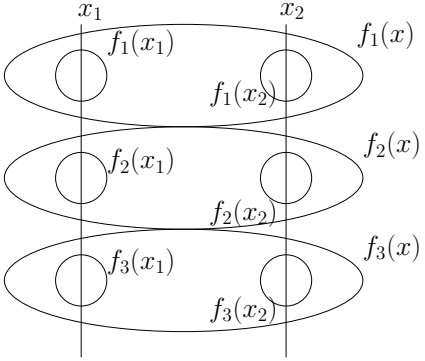
Common and Different components

According to the definition of the clusters, we have two methods

- **Clustering with common components in variables**
  Here, we define m components over all variables , i.e.

$$f_j(x) = \prod_{i=1}^{n} f_j(x_i),\ j = 1, 2, \cdots, m$$

  where $f_j(x)$ is j-th component over all variables x and $f_j(x_i)$ are local models - components in the j-th cluster within the i-th variable.



- **Clustering with different components in variables**
  Here, the components are defined in each variable separately (each variable can have different number of com-

ponents). I.e.

$$f(x_i) = \sum_{j=1}^{m(i)} w_j f_j(x_i)$$

where $f(x_i)$ is the model of the i-th variable over all clusters and $f_j(x_i)$ are local components.