

How do we set up a descriptor/sparse matrix?

**First step**, we have to decide a distribution of the index space of our problem, and how we are going to specify it:

- 1 Assign a process to each index;
- 2 Assign a list of indices to each process;
- 3 Assign a bunch of consecutive indices to each process;
- 4 Other;

For the C interface, we have different allocation routines for the different styles:

```
psb_i_t      psb_c_cdall_vg(psb_l_t ng, psb_i_t *vg,  
    psb_c_ctxt ctxt, psb_c_descriptor *desc_a);  
psb_i_t      psb_c_cdall_vl(psb_i_t nl, psb_l_t *vl,  
    psb_c_ctxt ctxt, psb_c_descriptor *desc_a);  
psb_i_t      psb_c_cdall_nl(psb_i_t nl,  
    psb_c_ctxt ctxt, psb_c_descriptor *desc_a);
```