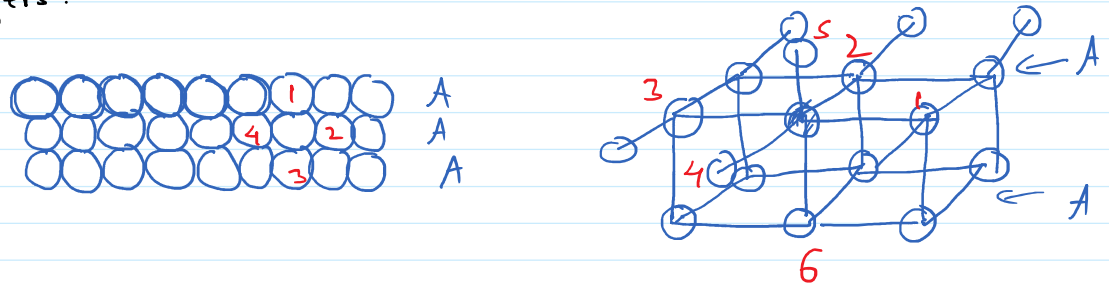


### (iii) Close packing in three dimensions

Three dimensional structures are obtained by stacking two dimensional layers one above the other.

Three dimensional close packing from two dimensional square close-packed layers.



i) Place the second layer over the first layer such that the spheres of the upper layer are exactly above those of the first layer i.e. the spheres of both the layers are aligned horizontally as well as vertically.

ii) If the arrangement of spheres in the first layer is called 'A' type, all the layers have same arrangement. Thus this lattice has AAA... type pattern.

iii) The lattice thus generated is the simple cubic lattice, and its unit cell is the primitive cubic unit cell.

iv) The coordination number is 6.