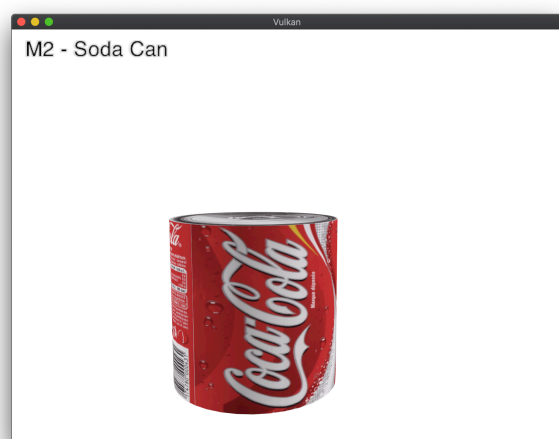
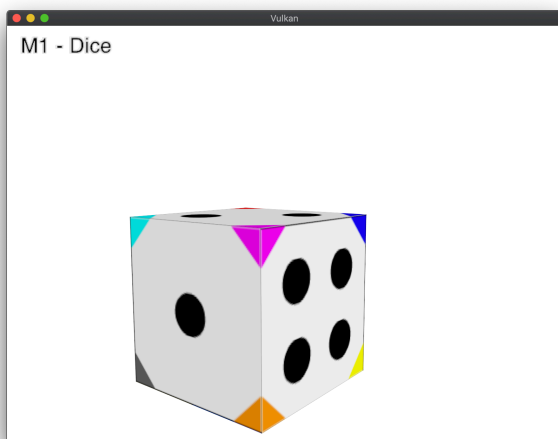


## A19 – UV coordinates

The Vulkan application whose source code is contained in file `Assignment19.cpp`, needs to show a dice and a soda can, respectively modelled with a cube and a cylinder, using a texture and appropriate UV coordinates. Objects are built within the code contained `models.cpp`. In particular, the user implements the procedure `makeModels()`, that creates the primitive using indexed triangle lists. Vectors `M1_vertices` and `M2_vertices` should contain the components of the vertices of the primitives, while vectors `M1_indices` and `M2_indices`, should contain the indices for building the triangles. Below you can find a sample result for the four objects. The main difference with respect to Assignment18 is that in this case vertices are characterized by the *position*, the *normal vector direction* and the *UVcoordinates*, contained in the Vertex data structure. Expected results are the following:



You can move the view using the same keys as in *Assignment0*:

| ESC – quit the application |             | SPACE BAR – move to the next projection   X: change view mode |         |              |               |
|----------------------------|-------------|---|---------|--------------|---------------|
| Q: roll left               | W: forward  | E: roll right   | R: up   |              | ↑: look up    |
| A: left                    | S: backward | D: right  | F: down | ←: look left | ↓: look down  |
|                            |             |   |         |              | →: look right |

Pressing **X** you can change the view mode: the wireframe mode also shows the direction of the normal vector and can be usefull for debugging your code.