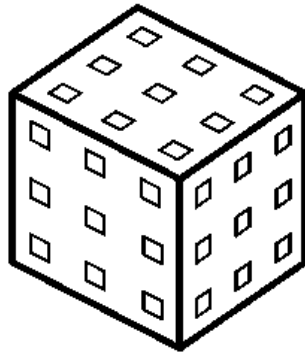
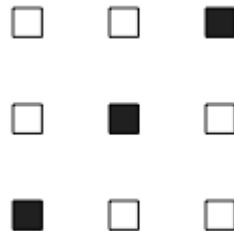


## Inky Cube

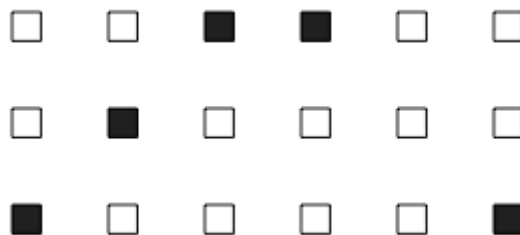


Here is a cube with nine small square patches on each of the six faces. Some of the patches on each face are covered in ink. All the faces are different.

The cube is placed on paper and makes a mark like this;



It is rolled over by tipping it very carefully (with no sliding) along one of the edges so that the next inky mark is right by its side. This gives;



It can roll both left and right and up and down.

When it has done several rolls, without taking it off, the paper looks like the print on the following page.

Your challenge is to find out:

- where the inky spots are on each of the six faces
- where the cube was first placed
- the route that the cube has taken.

All the faces might not have been used for this example.

When you believe you have solved this problem and can articulate your understanding, go to the Asst. Dean's office on the 3<sup>rd</sup> floor of Jordan Hall.