

## Question 7

### 7.1

For two-dimension grid:

$$\text{Index} = X_1 + L_1 * X_2$$

### 7.2

For three-dimension grid:

$$\text{Index} = X_1 + L_1 * X_2 + L_1 * L_2 * X_3$$

For four-dimension grid:

$$\text{Index} = X_1 + L_1 * X_2 + L_1 * L_2 * X_3 + L_1 * L_2 * L_3 * X_4$$

So It is easy find the pattern that

For six-dimension grid:

$$\text{Index} = X_1 + L_1 * X_2 + L_1 * L_2 * X_3 + L_1 * L_2 * L_3 * X_4 + L_1 * L_2 * L_3 * L_4 * X_5 + L_1 * L_2 * L_3 * L_4 * L_5 * X_6$$