



### Q1: Vertex Structure

Write a program that defines a simple Vertex structure (a point on the x-y plane) having two integer components for the x and y values. Your program should generate 5 random vertices each having integer values in the range of  $[-100, 100]$ , and write them to the terminal. To generate a random number, use the `rand()` function → `<cstdlib>`

### Q2: Vertex Class

Write a program that replaces the Vertex structure used in the Q1 with a C++ Vertex class having the following:

- Two private member variables (`x`, `y`)
- Member function that sets (x,y) with random numbers when invoked
- Getters for (`x`, `y`)
- Member function for return a string representation for the vertex.

Your `main()` routine should not be involved in generating random numbers and string formatting.

### Q3: Leetcode: Design Parking System → in C & C++

### Q4: Leetcode: Add Digits

