**Logo

Description automatically generated San Francisco Bay University**

**CS360L - Programming in C and C++ Lab**

**Quiz #2**

**Student Name: Student ID:**

1. A point in the *x-y* plane is represented by its *x-*coordinate and *y-*coordinate. Design a class, *pointType*, that can store and process a point in the *x-y* plane. You should then perform operations on the point, such as setting the coordinates of the point, printing the coordinates of the point, returning the *x-*coordinate, and returning the *y-*coordinate.

Every circle has a center and a radius. Given the radius, we can determine the circle’s area and circumference. Given the center, we can determine its position in the *x-y* plane. The center of the circle is a point in the *x-y* plane. Design a class, *circleType*, that can store the radius and center of the circle. Because the center is a point in the *x-y* plane and you designed the class to capture the properties of a point, you must derive the class *circleType* from the class *pointType*. You should be able to perform the usual operations on the circle, such as setting the radius, printing the radius, calculating and printing the area and circumference, and carrying out the usual operations on the center. Also, write a program to test various operations on a circle.