

```
/*
 * APTCV - Quiz #1:
 *   Announced: April 26, 2007
 *   Discussion: May 3, 2007
 *   Does the following program compile?
 *     - if it doesn't, why not? How to fix?
 *   (after potential fix)
 *   What is the output of the program?
 *   Does the output correspond to the expected output of the programmer?
 *   Is there anything that you would change in the programming style?
 */

#include<cmath>
#include<iostream>

class Point {
public:
    Point(double x=0, double y=0);
private:
    double x_;
    double y_;
    friend std::ostream& operator<<(std::ostream&, const Point&);
};

std::ostream& operator<<(std::ostream& out, const Point& p){
    out << "Point(x,y) = (" << p.x_ << ", " << p.y_ << ")\n";
    return out;
}

Point::Point(double x, double y) : x_(x), y_(y) { }

int main(){
    using std::cout;

    double angle = M_PI/2.;
    double radius = 10.0;
    double x = 5.0;
    double y = 5.0;
    Point p=(x+radius*std::cos(angle),y+radius*std::sin(angle));
    cout << p;
}
```