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// File: circles_solution.cpp
// Created by: Isaiah Green
// Created on: 9/18/2017

//compute the center coordinates and radii of the three cirles

#include <iostream>
#include <cmath>
using namespace std;

int main()
{
  double queryX, queryY; // the points that are in each circle
  double aX, bX, cX;   // the x coordinates of each circle
  double aY, bY, cY;   // the y coordinates of each circle
  double aRADIUS, bRADIUS, cRADIUS; // the radius of each circle

  cout << "Enter x and y coordinates of circle A (2 values): ";
  cin >> aX >> aY;

  cout << "Enter radius of circle A: ";
  cin >> aRADIUS;

  cout << "Enter x and y coordinates of circle B (2 values): ";
  cin >> bX >> bY;

  cout << "Enter radius of circle B: ";
  cin >> bRADIUS;

  cout << "Enter x and y coordinates of circle C (2 values): ";
  cin >> cX >> cY;

  cout << "Enter radius of circle C: ";
  cin >> cRADIUS;

  cout << "Enter x and y coordinates of query point (2 values): ";
  cin >> queryX >> queryY;

  //compute the circles values
  double circleA=sqrt((pow(queryX-aX,2))+(pow(queryY-aY,2)));
  double circleB=sqrt((pow(queryX-bX,2))+(pow(queryY-bY,2)));
  double circleC=sqrt((pow(queryX-cX,2))+(pow(queryY-cY,2)));


  if ((circleA<=aRADIUS)&&(circleB<=bRADIUS)&&(circleC<=cRADIUS)) //if
circle A, B, C, are true cout the statement
{
  cout << "Circles A, B,and C contain point " << "(" << queryX << "," <<
queryY << ")." << endl;
}
  else if ((circleA<=aRADIUS)&&(circleB<=bRADIUS)) //if circle A and B are
true cout the statement
{
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  cout << "Circles A and B contain point " << "(" << queryX << "," <<
queryY << ")." << endl;
}
  else if((circleA<=aRADIUS)&&(circleC<=cRADIUS)) //if circle A and C are
true cout the statement
{
  cout << "Circles A and C contain point " << "(" << queryX << "," <<
queryY << ")." << endl;
}
 else if((circleB<=bRADIUS)&&(circleC<=cRADIUS)) //if circle B and C are
true cout the statement
{
  cout << "Circles B and C contain point " << "(" << queryX << "," <<
queryY << ")." << endl;
}
 else if((circleA<=aRADIUS)) //if circle A is true cout the statement
{
  cout << "Circle A contains point " << "(" << queryX << "," << queryY <<
")." << endl;
}
 else if((circleB<=bRADIUS)) //if circle B is true cout the statement
{
  cout << "Circle B contains point " << "(" << queryX << "," << queryY <<
")." << endl;
}
 else if((circleC<=cRADIUS)) //if circle C is true cout the statement
{
  cout << "Circle C contains point " << "(" << queryX << "," << queryY <<
")." << endl;
}
  else //if all circles statements are false cout the statement
{
cout << "No circle contains point " << "(" << queryX << "," << queryY <<
")." << endl;
}

  return(0);
  }
```