Lab Exercise 2

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No. Matric: A23CS0112

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CODE:

```
/*      Lab Exercise 2
        MOHAMED ALIF FATHI BIN ABDUL LATIF
        A23CS0112                                                   */

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

int main()
{
        int x1, x2, x3, y1, y2, y3;
        int x, y;
        int i, j;
        double distance_AB, distance_AC, distance_BC;
        char pointLabel;

        x1 = 1; y1 = 3; x2 = 2; y2 = 6; x3 = 5; y3 = 4;

   distance_AB = (sqrt(pow((x2 - x1),2) + pow((y2 - y1), 2)));
   distance_AC = (sqrt(pow((x3 - x1),2) + pow((y3 - y1), 2)));
        distance_BC = (sqrt(pow((x3 - x2),2) + pow((y3 - y2), 2)));
```

```
        pointLabel = 'A';
        for (i = 0; i < 3; i++)
        {
    if (pointLabel == 'A')
        cout << pointLabel << "(" << x1 << ", " << y1 << ")";

                else if (pointLabel == 'B')
        cout << pointLabel << "(" << x2 << ", " << y2 << ")";

                else
       cout << pointLabel << "(" << x3 << ", " << y3 << ")";

    if (i == 0)
       cout << ", ";

                else if (i == 1)
       cout << ", and ";

    pointLabel++;
}

cout << endl << endl;

        cout << "  ";
for (i = 1; i <= 9; i++)
{
        if (i == 5)
                cout << "x ";
        else if (i == 9)
```

```
            cout << "y ";
        cout << "  ";
        }

        cout << endl << endl;

        pointLabel = 'A';
        for (i = 1; i <= 3; i++)
{
        cout << pointLabel << " ";
        for (j = 1; j <= 10; j++)
        {
                switch (pointLabel)
                        {
                        case 'A':       if (j == 5)
                                                cout << x1 << " ";
                                        else if (j == 9)
                                                cout << y1 << " ";
                                        cout << "  ";
                                        break;

                        case 'B':       if (j == 5)
                                                cout << x2 << " ";
                                        else if (j == 9)
                                                cout << y2 << " ";
                                        cout << "  ";
                                        break;

                        case 'C':       if (j == 5)
```

```
                                        cout << x3 << " ";
                                    else if (j == 9)
                                        cout << y3 << " ";
                                    cout << "  ";
                                    break;
                                }
                            }
                            cout << endl << endl;
                            pointLabel++;
                        }

                        cout << "AB = " << distance_AB << endl << endl;
                        cout << "AC = " << distance_AC << endl << endl;
                        cout << "BC = " << distance_BC << endl;

                        return 0;
}
```

OUTPUT:

```
A(1, 3), B(2, 6), and C(5, 4)

          x         y

A         1         3

B         2         6

C         5         4

AB = 3.16228

AC = 4.12311

BC = 3.60555

--------------------------------
Process exited after 0.05424 seconds with return value 0
Press any key to continue . . .
```