WRITE A C++ PROGRAM based on the tasks below:

- Set the values:

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

- Find the distance between every pair of pointsA(1, 3), B(2, 6), and C(5, 4)
  using Euclidean Distance Formula.

- The output of the program:

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

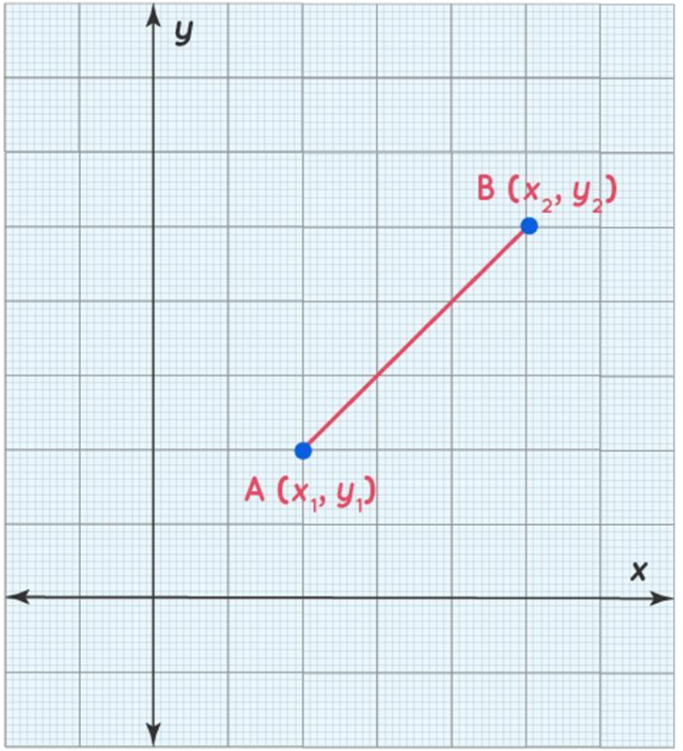
	x	y
A	1	3
B	2	6
C	5	4

AB =

AC =

BC =

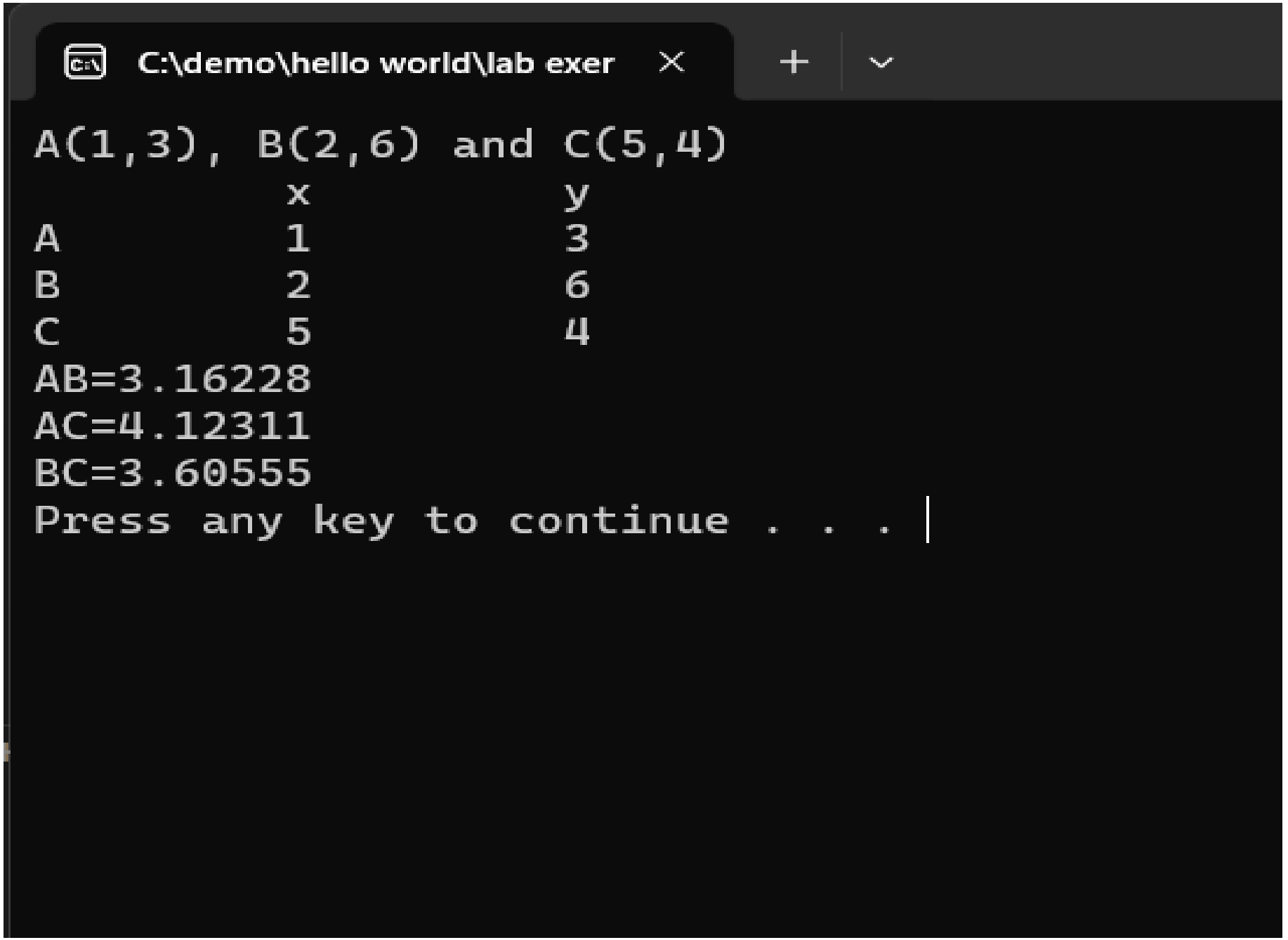
Euclidean Distance Formula



$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

```cpp
//Cheryl Cheong Kah Voon
//A23CS0060
#include<iostream>
#include<cmath>
#include<iomanip>
#include<cstring>
using namespace std;

void matrix(int, int, int, int, int, int);

void matrix(int x1, int y1, int x2, int y2, int x3, int y3)
{
 for(int i=1;i<4;i++){
     //cout<<"A\t "<<x1<<  setw(10) <<y1<<endl;
     //cout<<"B\t "<<x2<<  setw(10) <<y2<<endl;
     //cout<<"C\t "<<x3<<  setw(10) <<y3<<endl;
      switch (i)
    {
        case 1: cout<<"A\t "<<x1<<  setw(10) <<y1<<endl;
          break;
        case 2: cout<<"B\t "<<x2<<  setw(10) <<y2<<endl;
          break;
        default: cout<<"C\t "<<x3<<  setw(10) <<y3<<endl;
          break;

     }
  }
}

double distance (int,int,int,int);

double distance (int x1,int y1,int x2,int y2){
    return sqrt(pow(x2 - x1, 2) + pow(y2 - y1, 2));
}
```

```
int main(){
    int x1 = 1, y1 = 3;
    int x2 = 2, y2 = 6;
    int x3 = 5, y3 = 4;

    char number(50);
    char AB[30]="A(1,3), B(2,6)";
    char C[20]=" and C(5,4)";
    cout<<strcat(AB,C)<<endl;


    cout<<setw(10)<<"x"<<setw(10)<<"y"<<endl;

    matrix(x1, y1, x2, y2, x3, y3);

    double distance12 = distance(x1,y1,x2,y2);
    double distance13 = distance(x1,y1,x3,y3);
    double distance23 = distance(x2,y2,x3,y3);

    cout<<"AB="<<distance12<<endl;
    cout<<"AC="<<distance13<<endl;
    cout<<"BC="<<distance23<<endl;

    system("pause");
    return 0;
}
```


C:\demo\hello world\lab exer
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
Press any key to continue . . .