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//
// Object Oriented programming Introduction
//
// Find these notes online at
// http://brie.com/brian/teaches/oointro/
// See the lecture.pdf

#include <iostream>

using namespace std;

void setData(double &wid, double &len) {
  cout << "Enter width" <<endl;
  cin >> wid;
  cout << "Enter length" << endl;
  cin >> len;

}

void displayWidth(double wid) {
  cout << "The width is " << wid << endl;
}

void displayLength(double len) {
  cout << "The length is " << len << endl;
}

void displayArea(double wid, double len) {
  double area;
  area = wid * len;
  cout << "The area is " << area << endl;
}

int main() {

  double width;
  double length;

  setData(width, length);
  displayWidth(width);
  displayLength(length);
  displayArea(width, length);
}
```

```
#include <iostream>

using namespace std;

class Rectangle {
private:
  double width;
  double length;
public:
  void setWidth(double);
  void setLength(double);
  double getWidth() const;
  double getLength() const;
  double getArea() const;
};

void Rectangle::setWidth(double w) {
  width = w;
}

void Rectangle::setLength(double l) {
  length = l;
}

double Rectangle::getWidth() const {
  return width;
}

double Rectangle::getLength() const {
  return length;
}

double Rectangle::getArea() const {
  return width * length;
}

int main() {
  Rectangle box;

  double rectWidth;
  double recLength;

  cout << "What is the width ";
  cin >> rectWidth;
  cout << "What is the length ";
  cin >> recLength;

  box.setWidth(rectWidth);
  box.setLength(recLength);

  cout << "The data for the rectangle is " << endl;
  cout << "Width " << box.getWidth() << endl;
  cout << "Length " << box.getLength() << endl;
  cout << "Area " << box.getArea() << endl;
}
```

```
#include <iostream>

using namespace std;

class Rectangle {
private:
  double width;
  double length;
public:
  void setWidth(double);
  void setLength(double);
  double getWidth() const;
  double getLength() const;
  double getArea() const;
};

void Rectangle::setWidth(double w) {
  width = w;
}

void Rectangle::setLength(double l) {
  length = l;
}

double Rectangle::getWidth() const {
  return width;
}

double Rectangle::getLength() const {
  return length;
}

double Rectangle::getArea() const {
  return width * length;
}

int main() {
  Rectangle kitchen;
  Rectangle bedroom;
  Rectangle den;

  double number;
  double totalArea;

  cout << "Kitchen Width ";
  cin >> number;
  kitchen.setWidth(number);

  cout << "Kitchen Length ";
  cin >> number;
  kitchen.setLength(number);

  cout << "Bedroom Width ";
  cin >> number;
  bedroom.setWidth(number);
  cout << "Bedroom Length ";
  cin >> number;
  bedroom.setLength(number);

  cout << "Den Width ";
  cin >> number;
  den.setWidth(number);
```

```
    cout << "Den Length ";
    den.setLength(number);
    cin >> number;

    totalArea = kitchen.getArea() + bedroom.getArea() + den.getArea();
    cout << "The total area is " << totalArea << endl;

}
```

```
rectangle1 Output
================
$ ./rectangle1

Enter width 10
Enter length 11
The width is 10
The length is 11
The area is 110

rectangle2 Output
================
$ ./rectangle2

What is the width 10
What is the length 10
The data for the rectangle is
Width 10
Length 11
Area 110

rectangle3 Output
================
$ ./rectangle3

Kitchen Width 10
Kitchen Length 10
Bedroom Width 11
Bedroom Length 11
Den Width 12
Den Length 12
The total area is 365
```