Класове в C++ (упражнение) (*Rev: 1.1*)

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14 ноември 2007 г.

Point.hpp

```
1  #ifndef POINT_HPP__
2  #define POINT_HPP__
3
4  class Point {
5    double x_, y_;
6  public:
7    Point(double x=0.0, double y=0.0)
8      : x_(x), y_(y)
9    {}
10   double get_x(void) const {return x_;}
11   double get_y(void) const {return y_;}
```

Point.hpp

```
12    Point& set_x(double x) {
13      x_=x;
14      return *this;
15    }
16    Point& set_y(double y) {
17      y_=y;
18      return *this;
19    }
20    void print() const;
21  };
22
23  #endif
```

Point.cpp

```
1 #include <iostream>
2 using namespace std;
3
4 #include "Point.hpp"
5
6 void Point::print() const {
7   cout << "(" << x_ << ", " << y_ << ")";
8 }
```

Rectangle.hpp

```
1 #ifndef RECTANGLE_HPP_
2 #define RECTANGLE_HPP_
3
4 #include "Point.hpp"
5
6 class Rectangle {
7   Point bl_, ur_;
8
9   static double max(double a, double b) {
10    return a>b?a:b;
11  }
12  static double min(double a, double b) {
13    return a<b?a:b;
14  }
```

Rectangle.hpp

```
16 public:
17   Rectangle(const Point& p1,
18             const Point& p2);
19   double get_width() const;
20   double get_height() const;
21   double get_x() const;
22   double get_y() const;
23   const Point& get_ur() const;
24   const Point& get_bl() const;
25   void print() const;
26 };
27 #endif
```

Rectangle.cpp

```
1 #include <iostream>
2 using namespace std;
3
4 #include "Rectangle.hpp"
5
6 Rectangle::Rectangle(const Point& p1,
7                      const Point& p2)
8   : bl_(min(p1.get_x(),p2.get_x()),
9         min(p1.get_y(),p2.get_y())),
10    ur_(max(p1.get_x(),p2.get_x()),
11        max(p1.get_y(),p2.get_y()))
12 {}
```

Rectangle.cpp

```
14 double Rectangle::get_x() const {
15   return bl_.get_x();
16 }
17 double Rectangle::get_y() const {
18   return bl_.get_y();
19 }
20 const Point& Rectangle::get_bl() const {
21   return bl_;
22 }
23 const Point& Rectangle::get_ur() const {
24   return ur_;
25 }
```

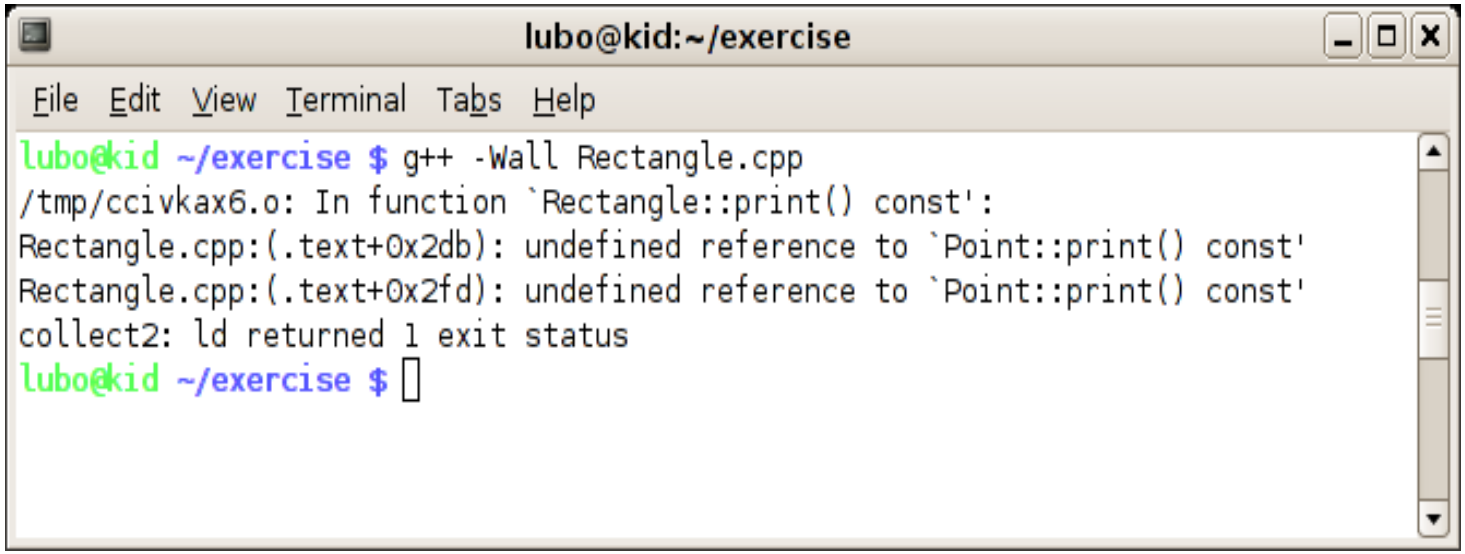
Rectangle.cpp

```
26 double Rectangle::get_width() const {
27   return ur_.get_x()-bl_.get_x();
28 }
29 double Rectangle::get_height() const {
30   return ur_.get_y()-bl_.get_y();
31 }
32 void Rectangle::print() const {
33   cout << "R{";
34   bl_.print();
35   cout << ";␣";
36   ur_.print();
37   cout << "}";
38 }
```

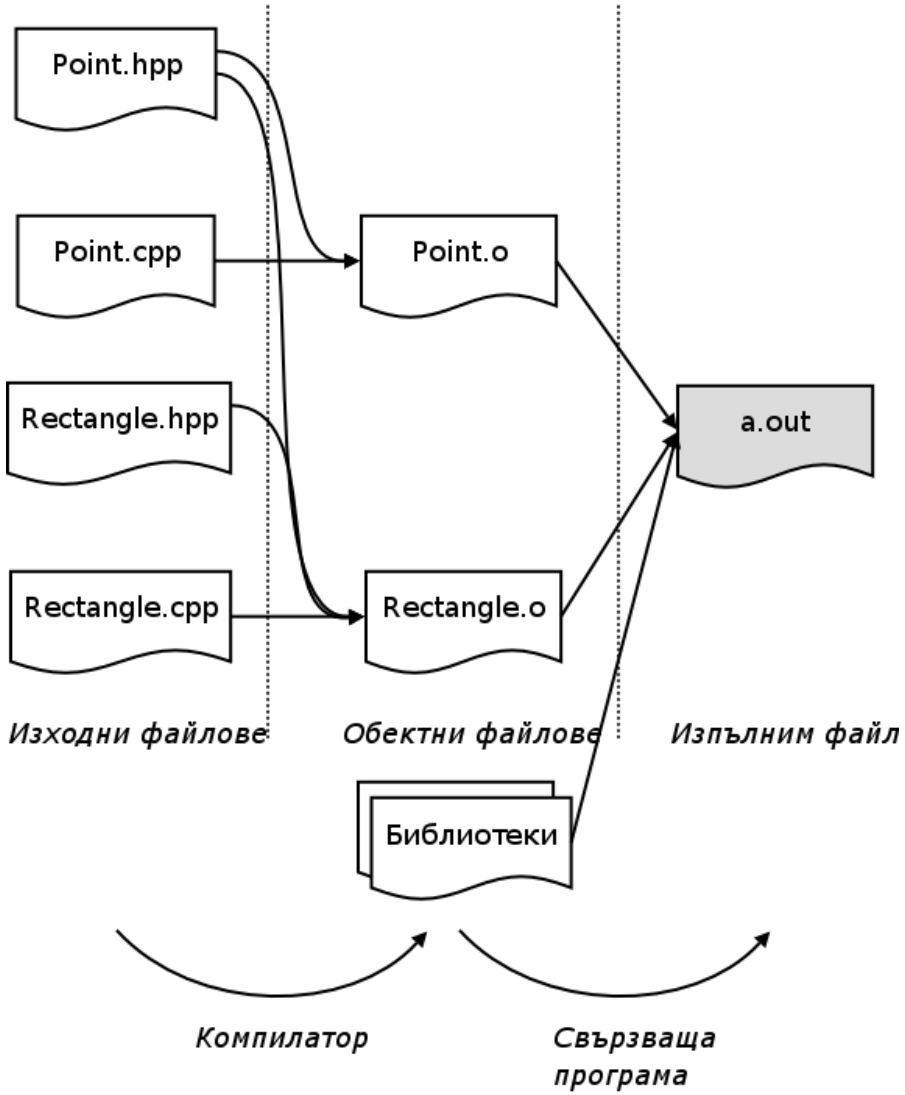
Rectangle.cpp

```
1 int main(void) {
2   Rectangle r1(Point(0,0),Point(2,2));
3   Rectangle r2(Point(-1,-2), Point(2,1));
4
5   r1.print();cout << endl;
6   r2.print();cout << endl;
7   return 0;
8 }
```

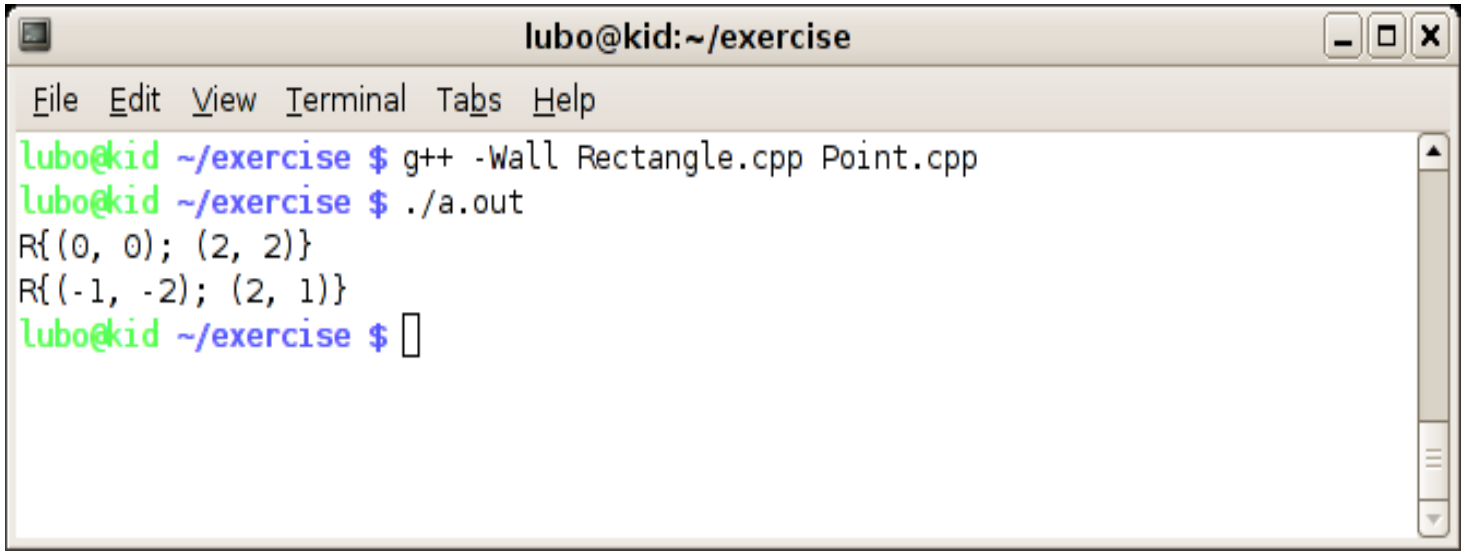
Разделно компилиране



Разделно компилиране



Разделно компилиране



Разделно компилиране

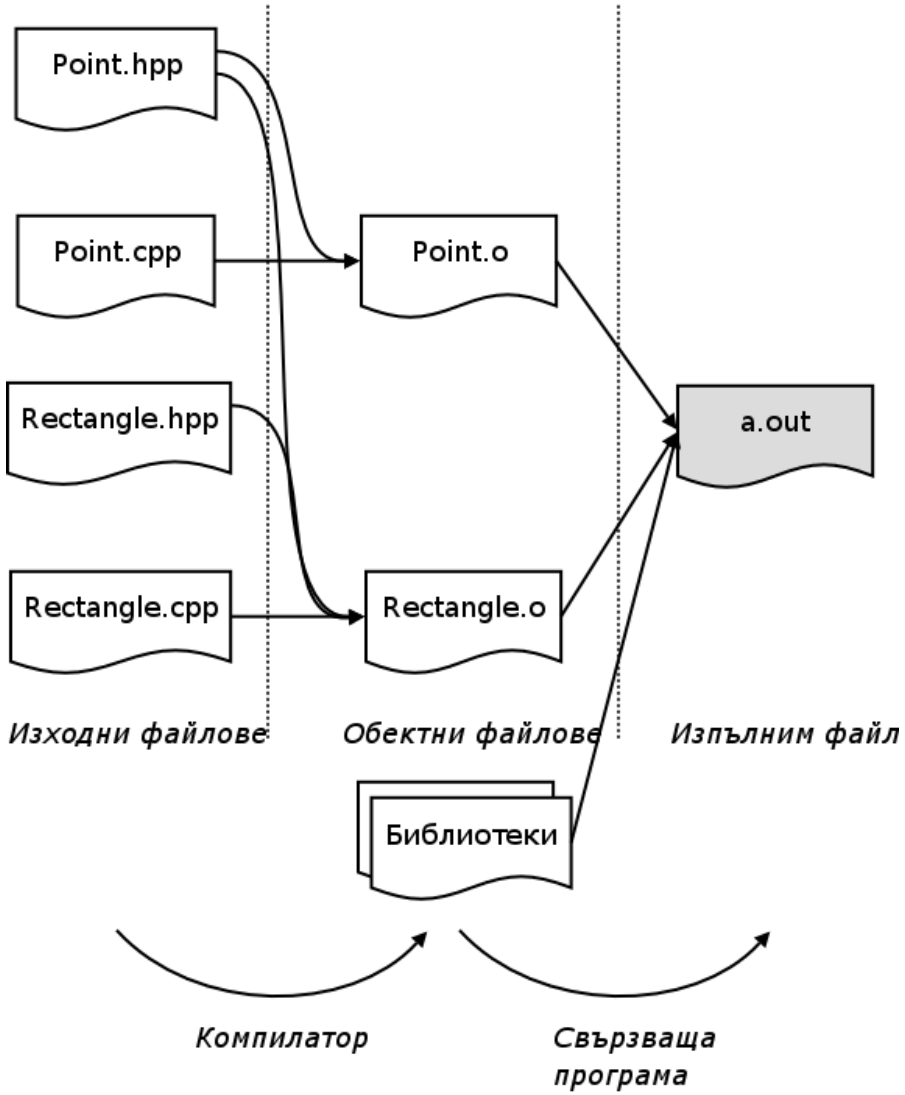
- Следната команда се опитва да създаде изпълним файл `a.out`.

  ```
  g++ -Wall Rectangle.cpp
  ```

- Следната команда създава обектен файл `Rectangle.o`.

  ```
  g++ -Wall -c Rectangle.cpp
  ```

Разделно компилиране



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