DSA Practice Report

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| Practice No. | 9 |
| Practice Title |  |
| Date |  |
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# Object Composition(in heap)

## Objects

1. to get deep understanding of class and object
2. to get deep understanding of oop concept
3. to learn well of object pointer

## Problems

### Solve the problem in Practice 7 with pointer

Try to solve the problem in Practice 7 with pointer.

## Results

**Algorithm Result:**

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**//----Practice 9,**

**#include <iostream>**

**#include <math.h>**

**#include <string>**

**using namespace std;**

**class Point{**

**double x,y;**

**public:**

**Point():x(0),y(0) { }**

**Point(double x1,double y1):x(x1),y(y1) {**

**}**

**void Move(double dx,double dy) {**

**x+=dx;y+=dy;**

**}**

**friend ostream & operator <<(ostream &out,Point &p);**

**~Point() { }**

**};**

**ostream & operator <<(ostream &out,Point &p){**

**out<<"("<<p.x<<","<<p.y<<") ";**

**return out;**

**}**

**class Triangle{**

**Point \*p1,\*p2,\*p3;**

**public:**

**Triangle():p1(NULL),p2(NULL),p3(NULL){**

**}**

**Triangle(Point \*p1a,Point \*p2a,Point \*p3a):p1(p1a),p2(p2a),p3(p3a){**

**}**

**friend ostream & operator <<(ostream &out,Triangle &t);**

**double GetArea();**

**};**

**ostream & operator<<(ostream &out,Triangle &t){**

**out<<(\*t.p1)<<" "<<(\*t.p2)<<" "<<(\*t.p3)<<endl;**

**return out;**

**}**

**int main(){**

**Point \*a=new Point(1,0),\*b=new Point(3,0),\*c=new Point(3,3),\*d=new Point(1,3);**

**Triangle t1(a,b,c);**

**Triangle t2(a,c,d);**

**cout<<"\*\*\* Learn about Object Pointer \*\*\*\n";**

**cout<<"\*\*\*\* Result before moving Values from points: \*\*\*\*\n";**

**cout<<"Triangle 1:"<<t1;**

**cout<<"Triangle 2:"<<t2;**

**cout<<"Move a Point from ";**

**cout<<\*a;**

**a->Move(0.5,0.5);**

**cout<<" to "<<\*a<<endl;**

**cout<<"\*\*\*\* Result after moving Values from points: \*\*\*\*\n"<<endl;**

**cout<<"triangle 1:"<<t1;**

**cout<<"triangle 2:"<<t2;**

**delete a;**

**delete b;**

**delete c;**

**delete d;**

**getchar();**

**return 0;**

**}**

