

COMPUTER PROGRAMMING WEEK 5 HOMEWORK SOLUTIONS

HW1

<pre>public class point { double x,y; public point(double xi,double yi) { x=xi; y=yi; } public double distance(point p1) {double R=Math.sqrt((x-p1.x)*(x-p1.x)+(y-p1.y)*(y-p1.y)); return R; } public static double distance(point p1,point p2) {double R=Math.sqrt((p1.x-p2.x)*(p1.x-p2.x)+(p1.y- p2.y)*(p1.y-p2.y)); return R; } public String toString() {String s="x="+x+"y =" +y; return s; } }</pre>	<pre>import javax.swing.*; public class W5_HW1 { public static void print(point p) {JOptionPane.showMessageDialog(null,p);} public static void main(String arg[]) { point p1=new point(1.2,2.3); print(p1); } }</pre>
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HW2

<pre>class box5 { double length; double width; double height; private String color; box5(String r,double l,double w, double h) {length=l; width=w; height=h; color=r; } public String read_color() {return color;} public void write_color(String c) {color=c;} double volume() {return length*width*height;} double area() {return 2.0*length*width+2.0*length*height+2.0*height*width;} public String toString() { String s=" Color = "+color+"\n"; s+="length = "+length+"\n"; s+="width = "+width+"\n"; s+="height = "+height+"\n"; s+="Volume = "+volume()+"\n"; s+="Area = "+area()+"\n"; return s; } }</pre>	<pre>import javax.swing.*; public class W5_HW1 { public static void print(point p) {JOptionPane.showMessageDialog(null,p);} public static void main(String arg[]) { point p1=new point(1.2,2.3); print(p1); } }</pre>
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HW3

<pre>public class complex3 { public double real; public double imaginary; public complex3(double g,double s) {real=g; imaginary=s; } public complex3(complex3 s1) {real=s1.real; imaginary=s1.imaginary; } public void add(complex3 s1) {real+=s1.real; imaginary+=s1.imaginary; } public static complex3 add(complex3 s1,complex3 s2) {complex3 z3=new complex3((s1.real+s2.real),(s1.imaginary+s2.imaginary)); return z3; } public void multiply(complex3 s1) {real=real*s1.real-imaginary*s1.imaginary; imaginary=imaginary*s1.real+s1.imaginary*real; } public static complex3 multiply(complex3 s1,complex3 s2) { complex3 s3=new complex3(s1); s3.multiply(s2); return s3; } public String toString() { String s=""; if(imaginary>0) {s+=real+" + i*"+imaginary+" \n";} else if(imaginary<0) {s+=real+" - i*"+(-imaginary)+" \n";} else {s+=real+" \n";} return s; } }</pre>	<pre>import javax.swing.*; public class W5_HW3 { public static void print(complex3 z,String s) {JOptionPane.showMessageDialog(null,z,s,JOptionPane.PLAIN_MESSAGE);} public static void main(String arg[]) { complex3 z1=new complex3(1.2,2.3); complex3 z2=new complex3(1.0,1.0); complex3 z3=complex3.multiply(z1,z2); print(z3,"z3"); z3.multiply(z1); print(z3,"z3"); } }</pre>
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HW4

<pre>public class Force { public double Fx; public double Fy; //constructor methods public Force(double Fxi,double Fyi) { Fx=Fx;Fy=Fy;} public Force(Force Vi) { Fx=Vi.Fx;Fy=Vi.Fy; } public Force() { Fx=0;Fy=0;} public static Force add(Force V1,Force V2) { Force V3=new Force((V1.Fx+V2.Fx),(V1.Fy+V2.Fy)); return V3; } public static Force add(double Fx1,double Fy1,double Fx2,double Fy2) { Force V3=new Force((Fx1+Fx2),(Fy1+Fy2)); return V3; } }</pre>	<pre>import javax.swing.*; public class W5_HW4 { public static void print(Force z,String s) {JOptionPane.showMessageDialog(null,z,"Class Force : "+s,JOptionPane.PLAIN_MESSAGE);} public static void main(String arg[]) { Force z1=new Force(1.2,2.3); Force z2=new Force(1.0,1.0); Force z3=Force.add(z1,z2); print(z3,"z3"); z3.add(z1); print(z3,"z3"); } }</pre>
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public static Force multiply(Force V1,Force V2)
{ Force V3=new Force((V1.Fx*V2.Fx),(V1.Fy*V2.Fy));
  return V3;
}
public void add(Force V1)
{ Fx+=V1.Fx;
  Fy+=V1.Fy;
}

public static String toString(Force M)
{
  String s=M.Fx+"*i + "+M.Fy+"*j";
  return s;
}

public String toString()
{ String s=Fx+"*i + "+Fy+"*j";
  return s;
}
}
```