Interface(Picture)

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import java.io.*; import java.lang.*;
interface picture {  float area ( );}
class rectangle implements picture
{  float p,q;
   public rectangle(float a, float b){p=a;q=b;}
   public float area ( ) { return p*q;}
}
class circle implements picture
{  float r; public circle(float a){r=a;}
   public float area ( ) {return (float)3.14*r*r;}
}
class ravi
{  public static void main( String args[])throws Exception
   { picture p[]=new picture[20];float a,b;int i,n=0;String s,t,u;char v,w;
     DataInputStream o=new DataInputStream(System.in);
     do
     { s=o.readLine( ); w=s.charAt(0);
       if (w=='C')
       {  n=n+1; t=s.substring(1); a=Float.parseFloat(t);
          p[n]=new circle(a); System.out.println(n+" is circle radius "+a);
       }
       if (w=='R')
       {  n=n+1; i=s.indexOf(',');
          t=s.substring(1,i);  a=Float.parseFloat(t);
          u=s.substring(i+1);b=Float.parseFloat(u);
          p[n]=new rectangle(a,b);
          System.out.println(n+" is rectangle length="+a+" breadth "+b);
       }
       if (w=='A')
       {  v=s.charAt(1); i=(int)v-48;
          System.out.println(p[i].area( ));
       }
     } while(1==1);
   }
}
```

Cx Circle of radius x
Rx,y Rectangle with length (x) and breadth (y)
Ax Area of x^{th} picture
C12⇒1 R12,10⇒2 C10⇒3 C20⇒4 R2,6⇒5
A2⇒120 A3⇒314 A1⇒452.16

1. Put following additional instructions.
   Bx Increase size of x^{th} picture (circle by 10)(Rectangle by 5,7) (no print)
   Dx Print size of x^{th} picture
   D2⇒Length=12,Breadth=10 B2 B3 B5 D2⇒Length=17,Breadth=17
   A3⇒1256 B3 A2⇒289 A3⇒2826 D3⇒Radius is 30
2. Write equivalent program of example program without using interface. Implement instructions C, R and A only. The output should be exactly as in example program.
3. Do above using only one class ravi. Class rectangle and circle should not be defined
4. Implement B and D also without using interface.
5. Put additional instruction Exy. Increase size of picture x so that y can be put
   C20⇒6 R52,10⇒7 E76 D7⇒length=52 Breadth=40
   C10⇒8 R30,40⇒5 E89 D8⇒Radius is 25