```
Inheritance — Reusability
21 October 2022 06:49 PM
                                                                              import java.util.*;
                                                                              class A
                                                                                int a;
                                                                                Scanner s=new Scanner(System.in);
                                                                                void inputA()
                                                                                  System.out.println("Please enter A value");
                                                                                  a=s.nextInt();
                                                                                void displayA()
                                                                                  System.out.println(" A value is "+a);
1) Single Inheritance
                                                                              class B extends A
                                                                 Generalization int b;
                                                                                void inputB()
2) Mulfilevel Inheritana
                                                                                  System.out.println("Please enter B value");
                                                                                  b=s.nextInt();
                                                                                void displayAplusB()
                                                                                  System.out.println(" Addition is "+(a+b));
3) Hierarchical Inheritance
                                                                gender -
                                                                              public class Main
                                                                                    public static void main(String[] args) {
                                                                                    B obj=new B();
                                                                                    obj.inputA();
                                           teaching
                                                             Non-Te
                                                                                    obj.displayA();
                                                                                    obj.inputB();
                                                                                    obj.displayAplusB();
                                                                GΙ
 4) Multiple Inheritance
(Interfaces)
                                                                              import java.util.*;
                                                                              class A
                                                                              {
                                                                                int a;
       import java.util.*;
                                                                                Scanner s=new Scanner(System.in);
       class A
                                                                                void inputA()
                                                                                  System.out.println("Please enter A value");
         A()
                                                                                  a=s.nextInt();
           System.out.println("Constructor of A class");
                                                                                void displayA()
                                                                                  System.out.println(" A value is "+a);
       class B extends A
       {
          B()
                                                                              class B extends A
           System.out.println("Constructor of B class");
                                                                              {
```

```
B()
                                                                             }
      {
                                                                             class B extends A
        System.out.println("Constructor of B class");
                                                                             {
      }
                                                                                int b;
                                                                                void inputB()
    class C extends B
                                                                                  System.out.println("Please enter B value");
      C()
                                                                                  b=s.nextInt();
        System.out.println("Constructor of C class");
                                                                                void displayAplusB()
      }
                                                                                  System.out.println(" Addition is "+(a+b));
    public class Main
          public static void main(String[] args) {
                                                                             class C extends B
          C obj=new C();
                                                                             {
                                                                                int c;
                                                                                void inputC()
                                                                                  System.out.println("Please enter C value");
                                                                                  c=s.nextInt();
Method Dressiding.
                                                                                void displayAddition()
                                                                                  System.out.println(" Addition is "+(a+b+c));
    import java.util.*;
    class A
                                                                             }
                                                                             public class Main
      int a;
      Scanner s=new Scanner(System.in);
                                                                                    public static void main(String[] args) {
      void inputA()
                                                                                    C obj=new C();
                                                                                    obj.inputA();
        System.out.println("Please enter A value");
                                                                                    obj.displayA();
        a=s.nextInt();
                                                                                    obj.inputB();
                                                                                    obj.displayAplusB();
      void displaySum()
                                                                                    obj.inputC();
                                                                                    obj.displayAddition();
        System.out.println(" A value is "+a);
      }
    class B extends A
                                                                          Super Keyword
      int b;
                                                                         import java.util.*;
      void inputB()
                                                                         class A
        System.out.println("Please enter B value");
                                                                           int a;
        b=s.nextInt();
                                                                           Scanner s=new Scanner(System.in);
      }
                                                                           void inputA()
      void displaySum()
                                                                              System.out.println("Please enter A value");
        System.out.println(" Addition is "+(a+b));
                                                                              a=s.nextInt();
      }
                                                                           void display() 4
    public class Main
                                                                              System.out.println(" A value is "+a);
          public static void main(String[] args) {
          B obj=new B();
          obj.inputA();
                                                                         class B extends A
          obj.displaySum();
          obj.inputB();
                                                                           int b;
          obj.displaySum();
                                                                           void inputB(
```

{

}

{

}

{

```
١
           obj.inputB();
                                                                            int b;
           obj.displaySum();
                                                                            void inputB(
     }
                                                                               System.out.println("Please Inter B value");
                                                                               b=s.nextInt();
Super keyword for parent class Constructor
                                                                            }
                                                                            void display()
     class A
                                                                              super.display();
     {
                                                                               System.out.println(" Addition is "+(a+b));
       int a;
                                                                            }
       A(int x)
                                                                          }
                                                                          public class Main
         a=x;
       }
                                                                                public static void main(String[] args) {
       void display()
                                                                                B obj=new B();
                                                                                obj.inputA();
         System.out.println(" A value is "+a);
                                                                                obj.inputB();
                                                                                obj.display();
     }
     class B extends A
                                                                          }
       int b;
       B(int x, int y)
                                                                                   Keyword - variable
         •super(x);
                                                                              import java.util.*;
        >b=y;
                                                                              class A
       void display()
                                                                                final int a=3;
                                                                                Scanner s=new Scanner(System.in);
         super.display();
                                                                                void inputA()
         System.out.println(" Addition is "+(a+b));
       }
                                                                                   System.out.println("Please enter A value");
     }
                                                                                   a=s.nextInt();
     public class Main
                                                                                void displayA()
           public static void rhain(String[] args) {
           B obj=new B(10,5);
                                                                                   System.out.println(" A value is "+a);
          →obj.display();
         keyword -> Method
                                                                              class B extends A
                                                                              {
                                                                                int b;
                                                                                void inputB()
     import java.util.*;
     class A
                                                                                   System.out.println("Please enter B value");
                                                                                   b=s.nextInt();
       int a=3;
       Scanner s=new Scanner(System.in);
                                                                                void displayAplusB()
       void inputA()
                                                                                   System.out.println(" Addition is "+(a+b));
         System.out.println("Please enter A value");
                                                                                }
         a=s.nextInt();
                                                                              }
                                                                              public class Main
       final void display()
                                                                                    public static void main(String[] args) {
         System.out.println(" A value is "+a);
                                                                                    B obj=new B();
       }
                                                                                    obj.inputA();
                                                                                    obj.displayA();
     class B extends A
                                                                                    obj.inputB();
                                                                                    obj.displayAplusB();
       int h
```

```
opj.aispiayA();
    class B extends A
                                                                                    obj.inputB();
                                                                                    obj.displayAplusB();
      int b;
      void inputB()
                                                                              }
                                                                                      keywood -> class.
         System.out.println("Please enter B value");
         b=s.nextInt();
      }
                                                                          import java.util.*;
      void display()
                                                                          class A
         System.out.println(" Addition is "+(a+b));
                                                                            Scanner s=new Scanner(System.in);
                                                                            void inputA()
    public class Main
                                                                              System.out.println("Please enter A value");
          public static void main(String[] args) {
                                                                              a=s.nextInt();
          B obj=new B();
          obj.inputA();
                                                                            void display()
          obj.display();
          obj.inputB();
                                                                              System.out.println(" A value is "+a);
          obj.display();
                                                                          final class B extends A
Abstract class-
                                                                            int b;
                                                                            void inputB()
    import java.util.*;
    abstract class Volume
                                                                              System.out.println("Please enter B value");
                                                                              b=s.nextInt();
      float r,v;
      Scanner s=new Scanner(System.in);
                                                                            void display()
      void input()
      {
                                                                              System.out.println(" Addition is "+(a+b));
         System.out.println("Pls enter radius");
         r=s.nextFloat();
                                                                          class C extends B
      void output()
         System.out.println("Volume is "+v);
      abstract void calculate();
                                                                          public class Main
    class Sphere extends Volume
                                                                                public static void main(String[] args) {
                                                                                C obj=new C();
      void calculate()
                                                                                obj.inputA();
                                                                                obj.display();
         v=4.0f/3*3.14f*r*r*r;
                                                                                obj.inputB();
                                                                                obj.display();
    class HemiSphere extends Volume
      void calculate()
         v=2.0f/3*3.14f*r*r*r;
      }
    }
                                                                import java.util.*;
                                                                interface Volume
    class HelloWorld {
      public static void main(String[] args) {
                                                                  void input();
         Sphere sp=new Sphere();
         sp.input();
                                                                  void calculate();
         دم ممامینامهم/۱۰
                                                                  void autaut/1.
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pablic static vola manijstimatij args) t
                                                              void input();
    Sphere sp=new Sphere();
                                                              void calculate();
    sp.input();
                                                              void output();
    sp.calculate();
    sp.output();
    HemiSphere h=new HemiSphere();
                                                            class Sphere implements Volume
    h.input();
    h.calculate();
                                                              float r,v;
                                                              Scanner s=new Scanner(System.in);
    h.output();
                                                              public void input()
}
                                                              {
                                                                System.out.println("Pls enter radius");
                                                                r=s.nextFloat();
                                                              }
                                                              public void output()
                                                                System.out.println("Volume is "+v);
                                                              }
                                                              public void calculate()
                                                                v=4.0f/3*3.14f*r*r*r;
                                                            }
                                                            class HelloWorld {
                                                              public static void main(String[] args) {
                                                                Sphere sp=new Sphere();
                                                                sp.input();
                                                                sp.calculate();
                                                                sp.output();
```

}

Packages-Main

```
import java.util.*;
import vol.Cyl;
class Main
public static void main(String z[])
double r,h;
Scanner s=new Scanner(System.in);
System.out.println("Enter radius and height");
r=s.nextDouble();
h=s.nextDouble();
Cyl c=new Cyl();
System.out.println("The volume is "+c.volume(r,h));
}
}
```

```
package vol;
public class Cyl
public double volume(double r,double h)
return 3.14*r*r*h;
}
}
```