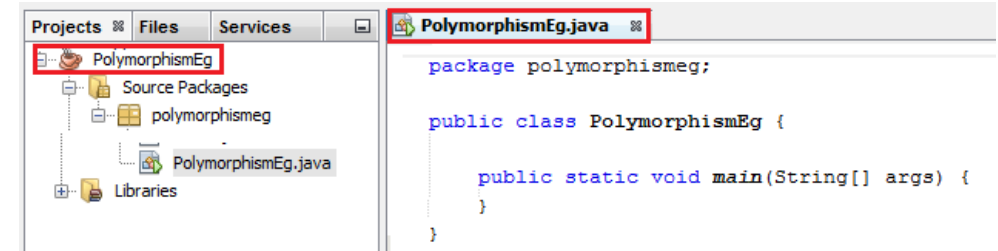


Polymorphism Exercise

- Create a new Project in Net Beams polymorphismEg



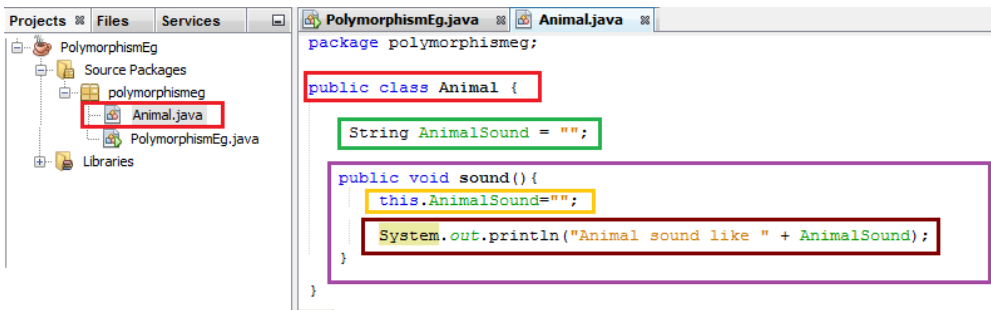
```
package polymorphismeg;

public class PolymorphismEg {

    public static void main(String[] args) {

    }

}
```



```
package polymorphismeg;

public class Animal {

    String AnimalSound = "";

    public void sound() {

        this.AnimalSound="";

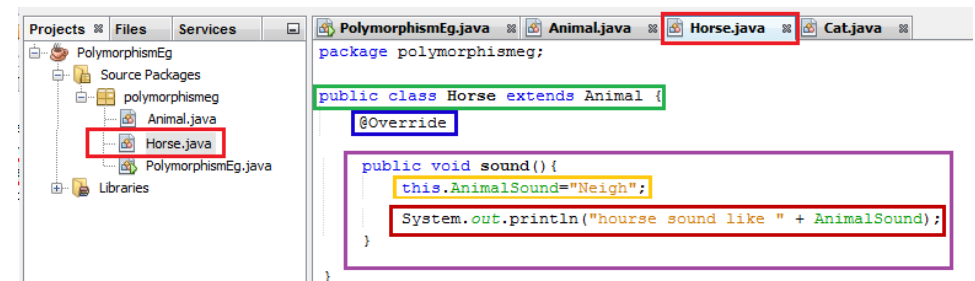
        System.out.println("Animal sound like " + AnimalSound);

    }

}
```

- Add a Class to the project (Animal)
- Add a string variable (AnimalSound)
- Create a Public Void Method (Sound)
- Set the animal sound to null string
- Output the animal sound

- Add a Class to the project (Horse)
- Extend the class to include Animal
- Include the @Override clause
- Create a Public Void Method (Sound)
- Set the animal sound to Neigh
- Output the animal sound



```
package polymorphismeg;

public class Horse extends Animal {

    @Override

    public void sound() {

        this.AnimalSound="Neigh";

        System.out.println("horse sound like " + AnimalSound);

    }

}
```

Polymorphism Exercise

- Add a Class to the project (Horse)
- Extend the class to include Animal
- Include the @Override clause
- Create a Public Void Method (Sound)
- Set the animal sound to Meow
- Output the animal sound

The screenshot shows the IDE interface with the PolymorphismEg project. The project structure in the left pane shows a source package named 'polymorphismeg' containing files 'Animal.java', 'Cat.java', 'Horse.java', and 'PolymorphismEg.java'. The 'Cat.java' file is highlighted with a red box. The main editor displays the code for 'Horse.java', which is highlighted with a green box. The code includes an '@Override' annotation (blue box) and a 'public void sound()' method (purple box). Inside the method, 'this.AnimalSound="Meow";' is highlighted with a yellow box, and 'System.out.println("horse sound like " + AnimalSound);' is highlighted with a red box.

```
public class Horse extends Animal {  
    @Override  
    public void sound() {  
        this.AnimalSound="Meow";  
        System.out.println("horse sound like " + AnimalSound);  
    }  
}
```

The screenshot shows the IDE interface with the PolymorphismEg project. The project structure in the left pane shows a source package named 'polymorphismeg' containing files 'Animal.java', 'Cat.java', 'Horse.java', and 'PolymorphismEg.java'. The 'PolymorphismEg.java' file is highlighted with a red box. The main editor displays the code for 'PolymorphismEg.java', which is highlighted with a green box. The code includes a 'package polymorphismeg;' declaration and a 'public class PolymorphismEg {' declaration. Inside the class, there is a 'public static void main(String[] args) {' method. Inside the main method, 'Animal obj;' is highlighted with a green box, 'obj = new Horse();' is highlighted with a purple box, and 'obj.sound();' is highlighted with an orange box. Below this, 'obj = new Cat();' is highlighted with a purple box, and 'obj.sound();' is highlighted with an orange box.

```
package polymorphismeg;  
  
public class PolymorphismEg {  
    public static void main(String[] args) {  
        Animal obj;  
        obj = new Horse();  
        obj.sound();  
  
        obj = new Cat();  
        obj.sound();  
    }  
}
```

- Select The polymorphismEg Tab
- Select the Main Method
- Declare an object (OBJ the Animal)
- Set OBJ to w equal New Horse()
- Invoke the Sound() method
- Set OBJ to w equal New Horse()
- Invoke the Sound() method
- Run Project