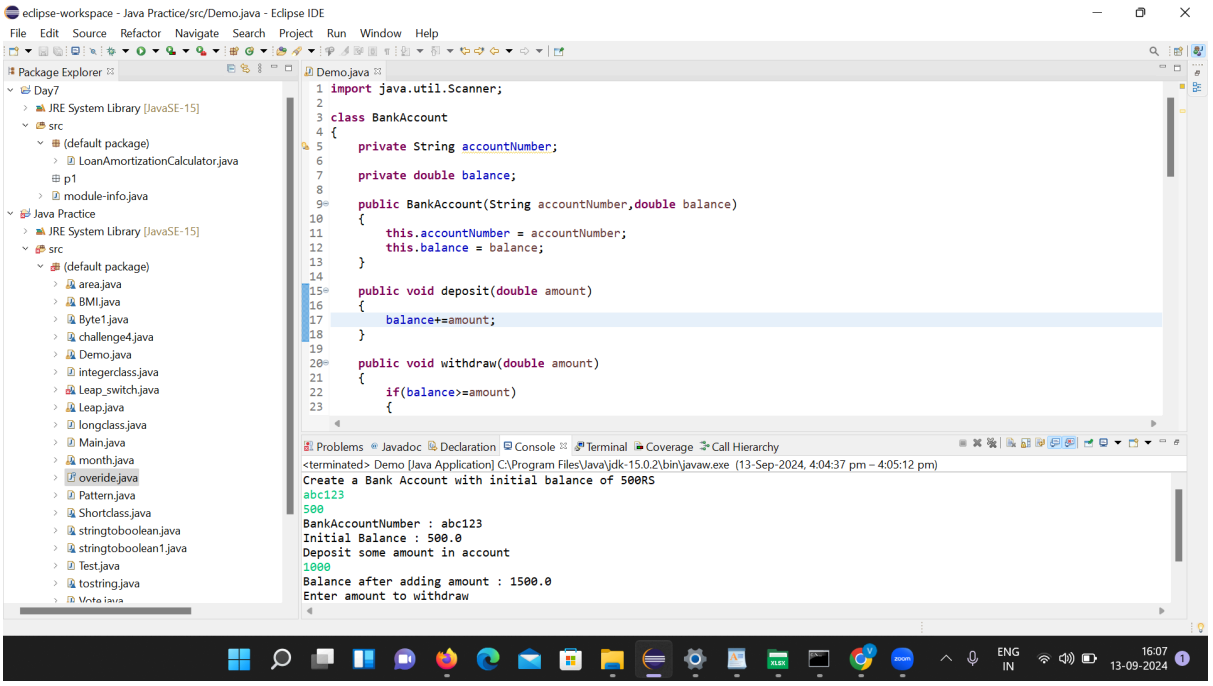
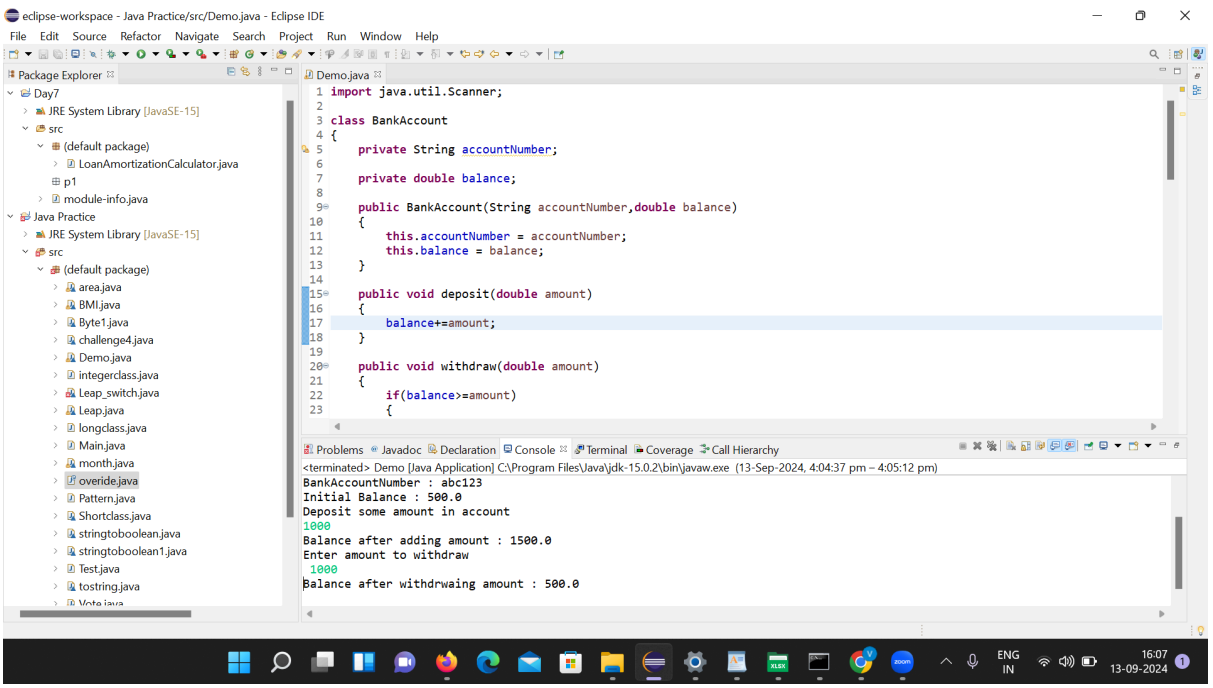
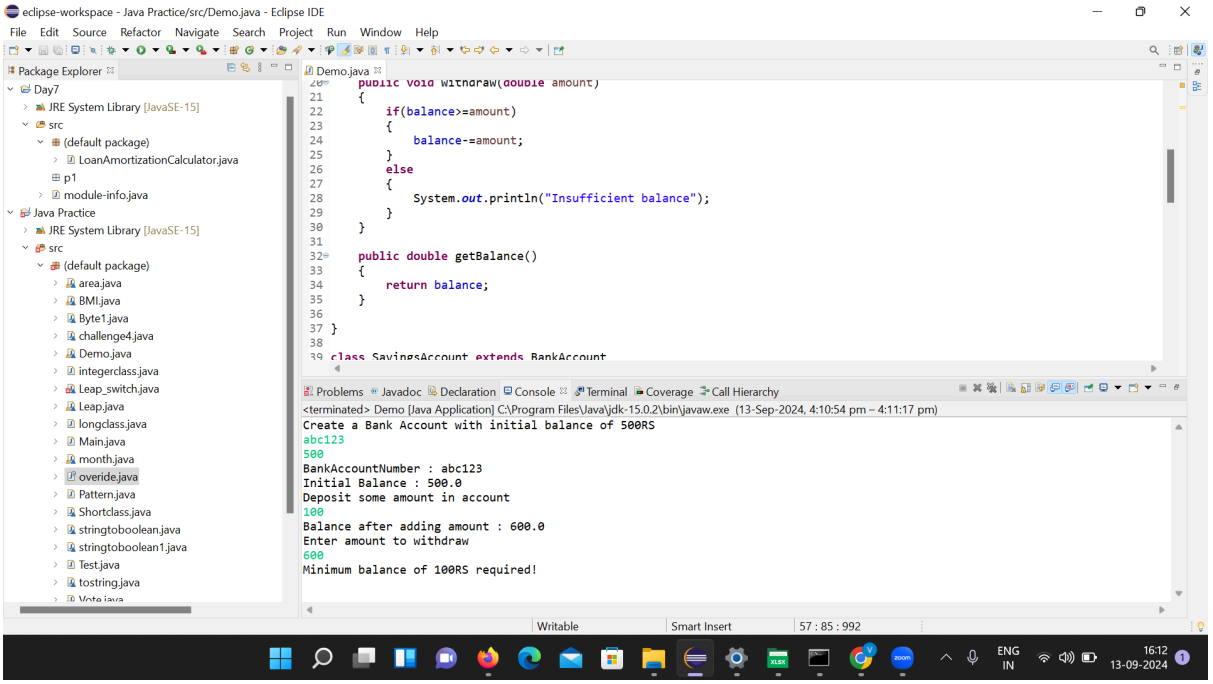
CDAC Mumbai PG-DAC August 24

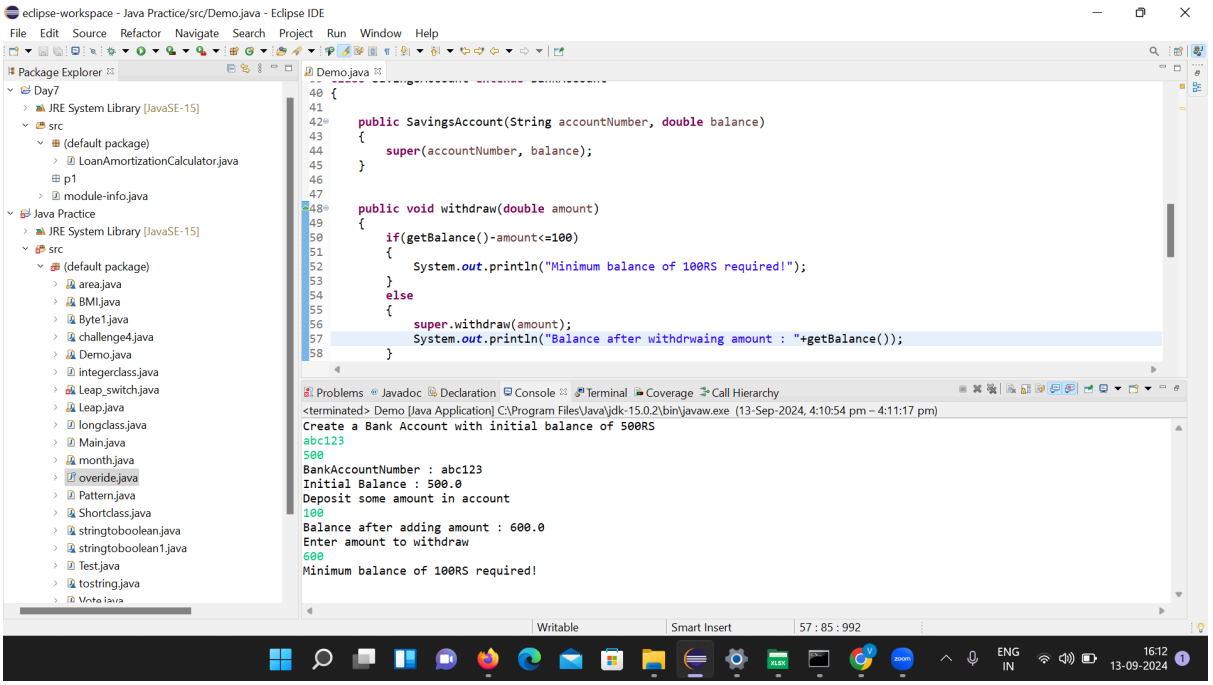
Assignment No- 5

Create a base class BankAccount with methods like deposit() and withdraw(). Derive a class SavingsAccount that overrides the withdraw() method to impose a limit on the withdrawal amount. Write a program that demonstrates the use of overridden methods and proper access modifiers & return the details.






eclipse-workspace - Java Practice/src/Demo.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Day7
JRE System Library [JavaSE-15]
src
(default package)
LoanAmortizationCalculator.java
p1
module-info.java
Java Practice
JRE System Library [JavaSE-15]
src
(default package)
area.java
BMI.java
Byte1.java
challenge4.java
Demo.java
integerclass.java
Leap_switch.java
Leap.java
longclass.java
Main.java
month.java
overide.java
Pattern.java
Shortclass.java
stringtoboolean.java
stringtoboolean1.java
Test.java
tostring.java
Demo.java
public void withdraw(double amount)
{
if(balance>=amount)
{
balance-=amount;
}
else
{
System.out.println("Insufficient balance");
}
}
public double getBalance()
{
return balance;
}
}
class SavingsAccount extends BankAccount
Problems Javadoc Declaration Console Terminal Coverage Call Hierarchy
<terminated> Demo [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (13-Sep-2024, 4:10:54 pm – 4:11:17 pm)
Create a Bank Account with initial balance of 500RS
abc123
500
BankAccountNumber : abc123
Initial Balance : 500.0
Deposit some amount in account
100
Balance after adding amount : 600.0
Enter amount to withdraw
600
Minimum balance of 100RS required!
Writable
Smart Insert
57 : 85 : 992
ENG
IN
16:12
13-09-2024


eclipse-workspace - Java Practice/src/Demo.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Day7
JRE System Library [JavaSE-15]
src
(default package)
LoanAmortizationCalculator.java
p1
module-info.java
Java Practice
JRE System Library [JavaSE-15]
src
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area.java
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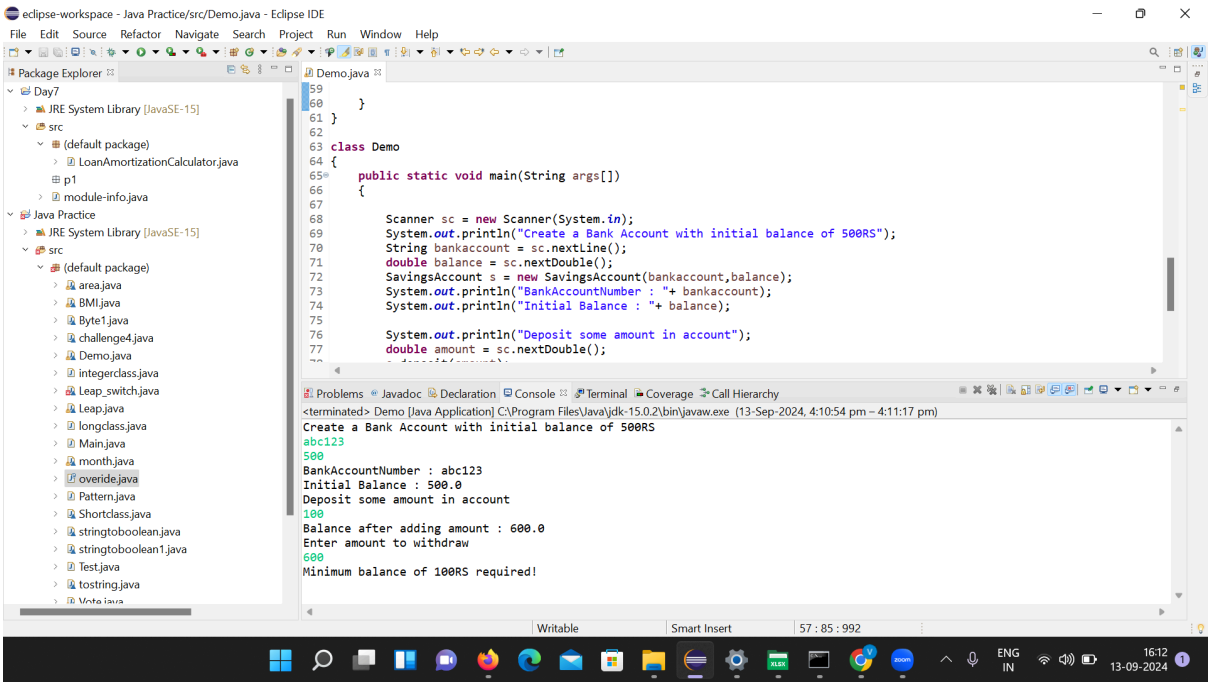
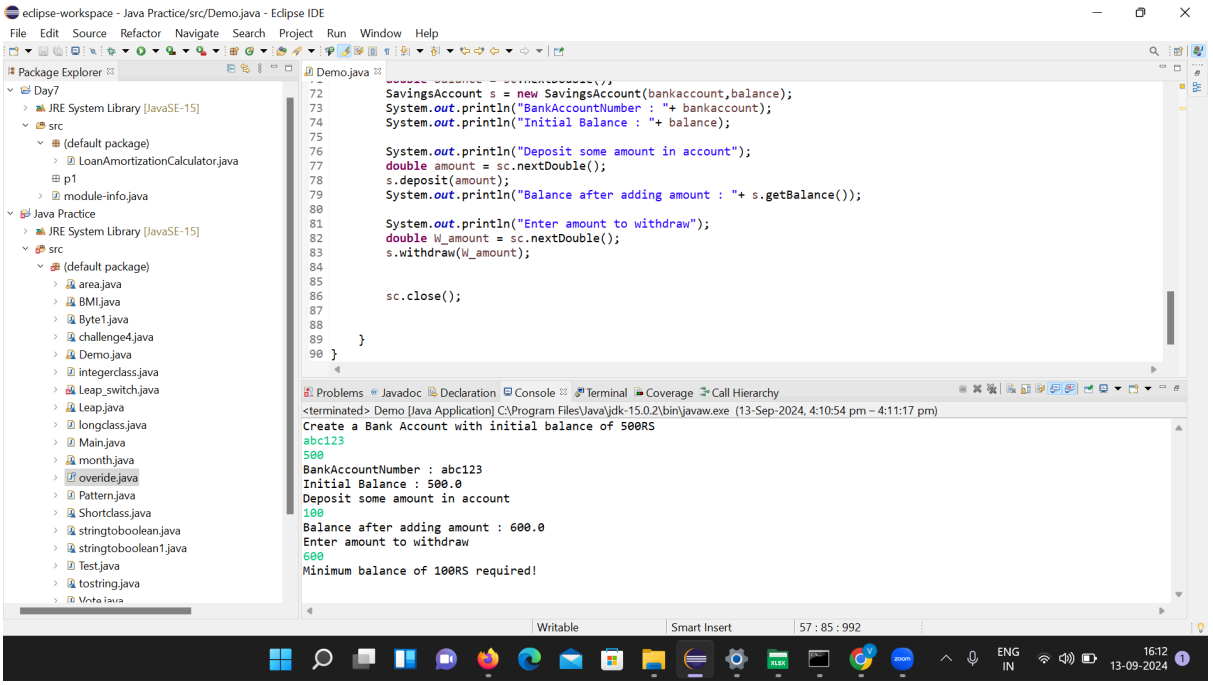
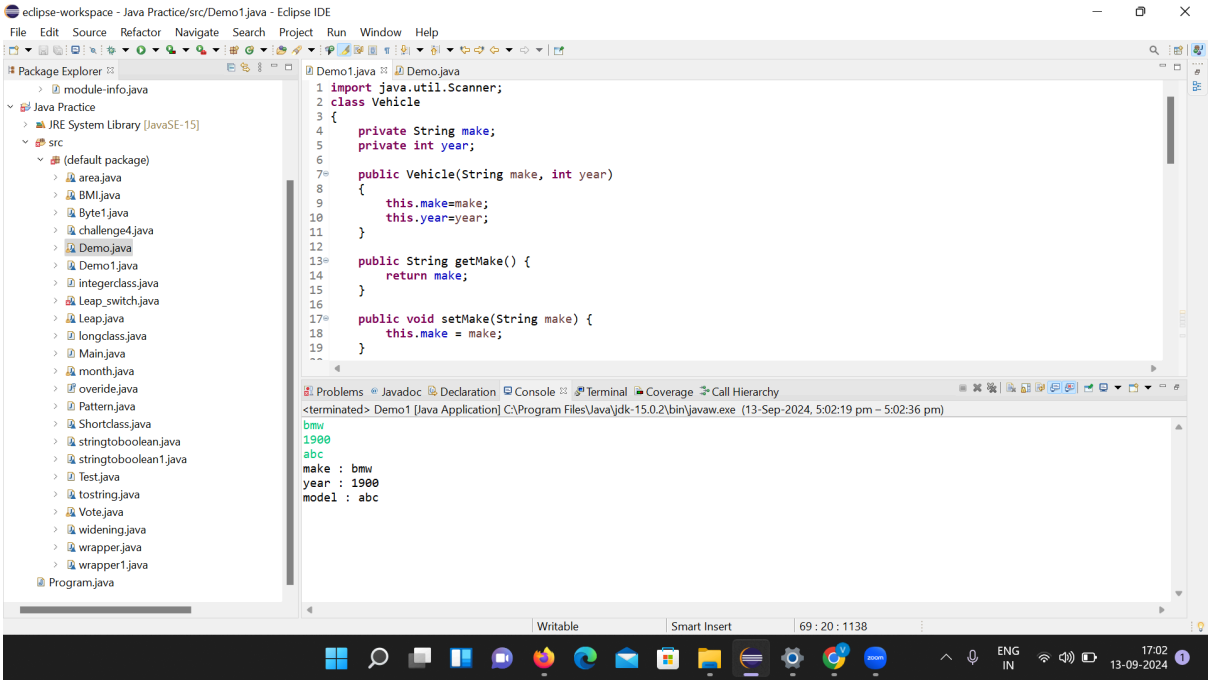
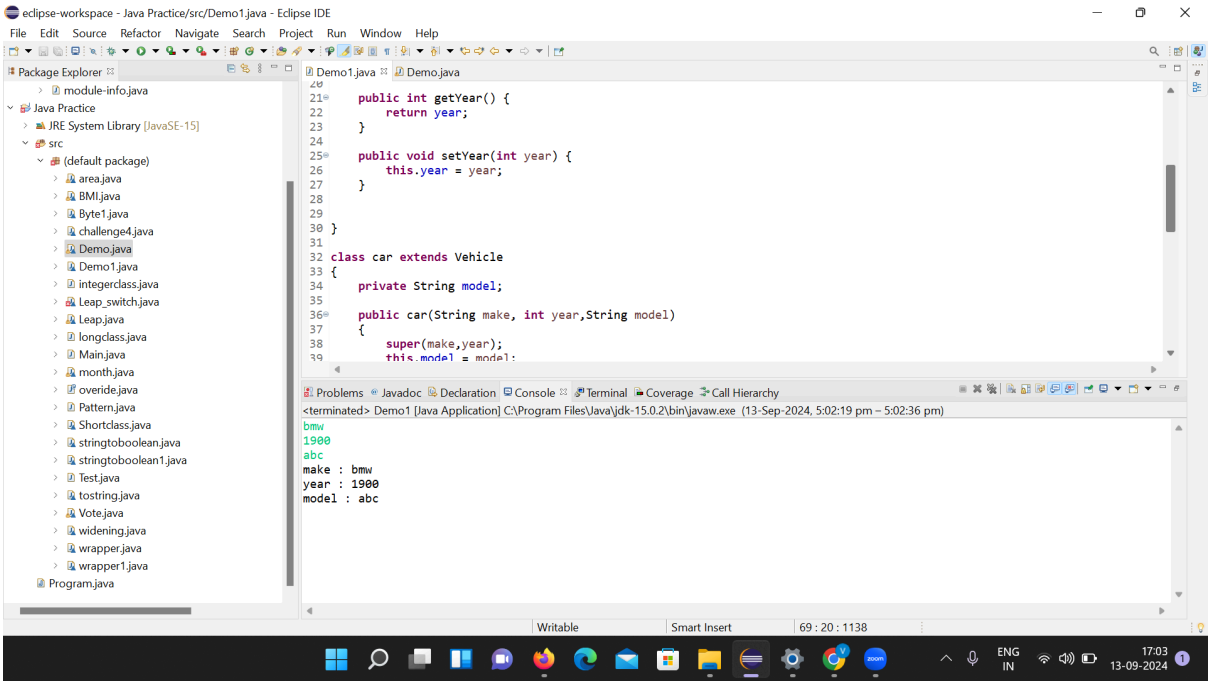
challenge4.java
Demo.java
integerclass.java
Leap_switch.java
Leap.java
longclass.java
Main.java
month.java
overide.java
Pattern.java
Shortclass.java
stringtoboolean.java
stringtoboolean1.java
Test.java
tostring.java
Demo.java
{
public SavingsAccount(String accountNumber, double balance)
{
super(accountNumber, balance);
}
public void withdraw(double amount)
{
if(getBalance()-amount<=100)
{
System.out.println("Minimum balance of 100RS required!");
}
else
{
super.withdraw(amount);
System.out.println("Balance after withdrwaing amount : "+getBalance());
}
Problems Javadoc Declaration Console Terminal Coverage Call Hierarchy
<terminated> Demo [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (13-Sep-2024, 4:10:54 pm – 4:11:17 pm)
Create a Bank Account with initial balance of 500RS
abc123
500
BankAccountNumber : abc123
Initial Balance : 500.0
Deposit some amount in account
100
Balance after adding amount : 600.0
Enter amount to withdraw
600
Minimum balance of 100RS required!
Writable
Smart Insert
57 : 85 : 992
ENG
IN
16:12
13-09-2024





Create a base class Vehicle with attributes like make and year. Provide a constructor in Vehicle to initialize these attributes. Derive a class Car that has an additional attribute model and write a constructor that initializes make, year, and model. Write a program to create a Car object and display its details.


eclipse-workspace - Java Practice/src/Demo1.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
module-info.java
Java Practice
JRE System Library [JavaSE-15]
src
(default package)
area.java
BMI.java
Byte1.java
challenge4.java
Demo.java
Demo1.java
integerclass.java
Leap_switch.java
Leap.java
longclass.java
Main.java
month.java
overide.java
Pattern.java
Shortclass.java
stringtoboolean.java
stringtoboolean1.java
Test.java
tostring.java
Vote.java
widening.java
wrapper.java
wrapper1.java
Program.java
Demo1.java
Demo.java
1 import java.util.Scanner;
2 class Vehicle
3 {
4 private String make;
5 private int year;
6
7 public Vehicle(String make, int year)
8 {
9 this.make=make;
10 this.year=year;
11 }
12
13 public String getMake() {
14 return make;
15 }
16
17 public void setMake(String make) {
18 this.make = make;
19 }
Problems Javadoc Declaration Console Terminal Coverage Call Hierarchy
<terminated> Demo1 [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (13-Sep-2024, 5:02:19 pm – 5:02:36 pm)
bmw
1900
abc
make : bmw
year : 1900
model : abc
Writable
Smart Insert
69 : 20 : 1138
ENG
IN
17:02
13-09-2024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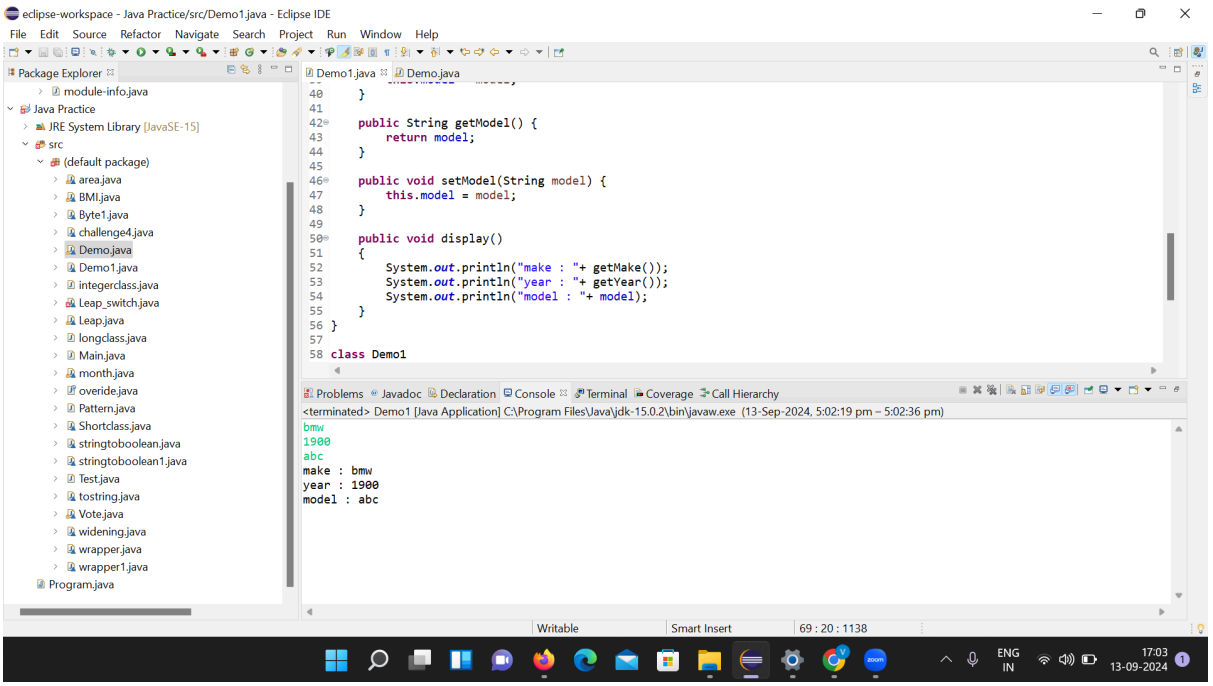
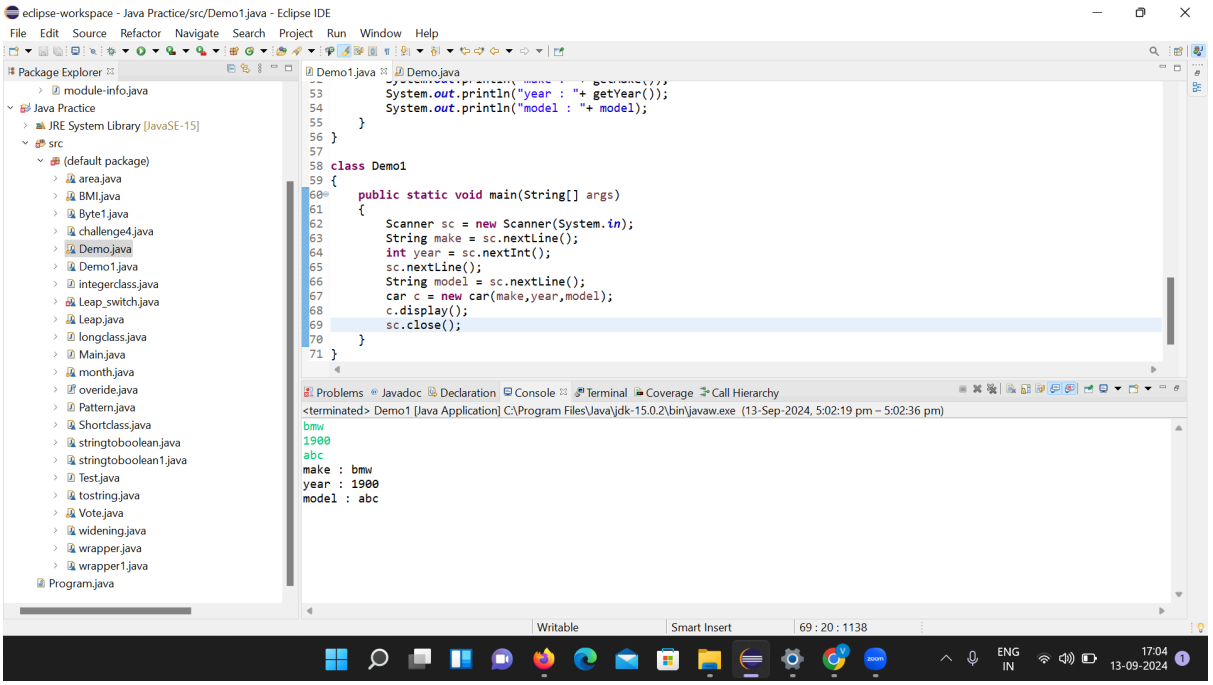
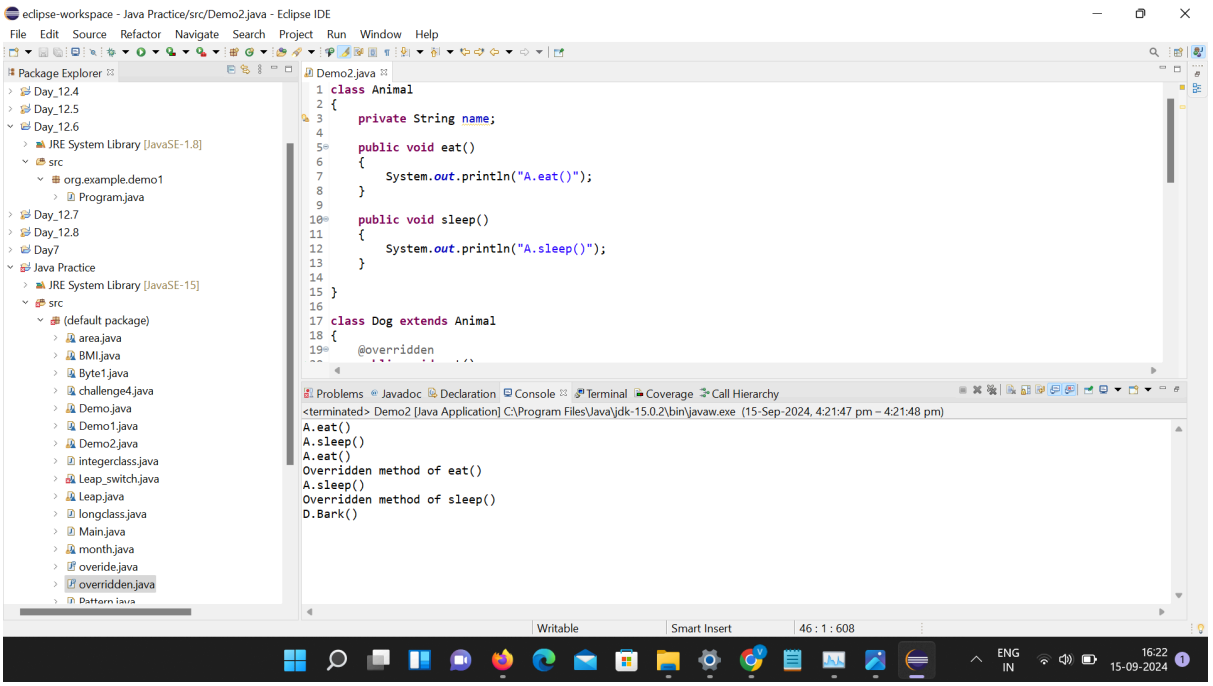
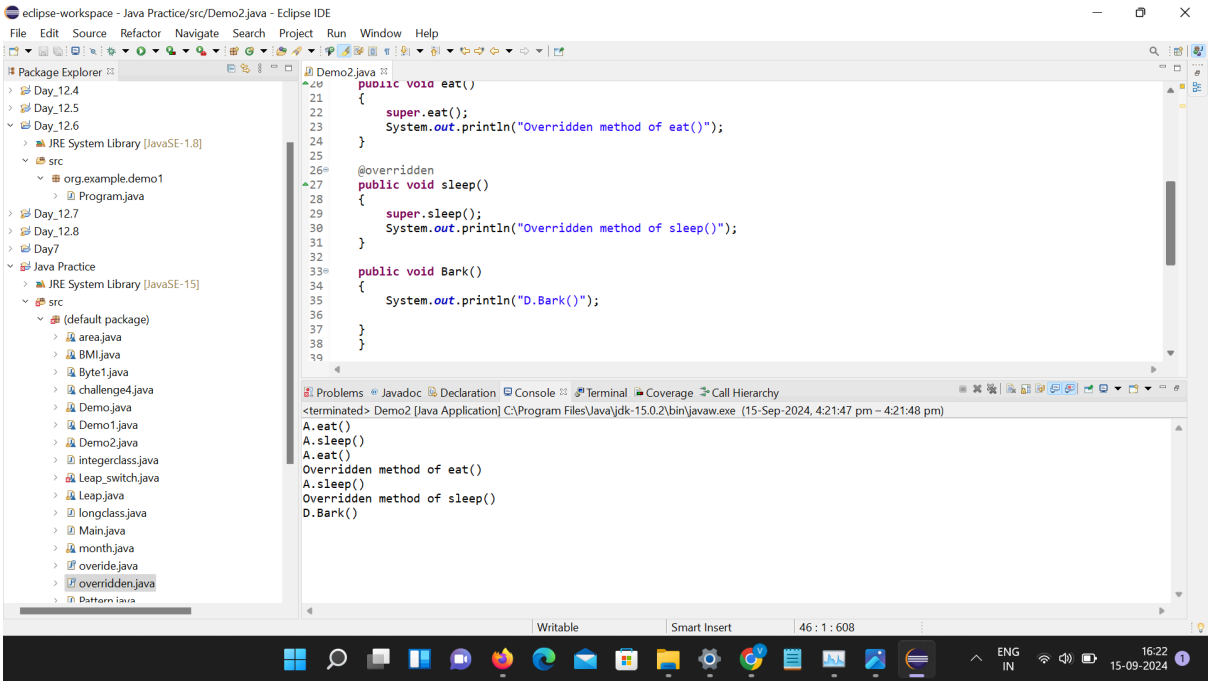
Package Explorer
module-info.java
Java Practice
JRE System Library [JavaSE-15]
src
(default package)
area.java
BMI.java
Byte1.java
challenge4.java
Demo.java
Demo1.java
integerclass.java
Leap_switch.java
Leap.java
longclass.java
Main.java
month.java
overide.java
Pattern.java
Shortclass.java
stringtoboolean.java
stringtoboolean1.java
Test.java
tostring.java
Vote.java
widening.java
wrapper.java
wrapper1.java
Program.java
Demo1.java
Demo.java
21 public int getYear() {
22 return year;
23 }
24
25 public void setYear(int year) {
26 this.year = year;
27 }
28
29
30 }
31
32 class car extends Vehicle
33 {
34 private String model;
35
36 public car(String make, int year,String model)
37 {
38 super(make,year);
39 this.model = model;
Problems Javadoc Declaration Console Terminal Coverage Call Hierarchy
<terminated> Demo1 [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (13-Sep-2024, 5:02:19 pm – 5:02:36 pm)
bmw
1900
abc
make : bmw
year : 1900
model : abc
Writable
Smart Insert
69 : 20 : 1138
ENG
IN
17:03
13-09-2024





Create a base class Animal with attributes like name, and methods like eat() and sleep(). Create a subclass Dog that inherits from Animal and has an additional method bark(). Write a program to demonstrate the use of inheritance by creating objects of Animal and Dog and calling their methods.


eclipse-workspace - Java Practice/src/Demo2.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Day_12.4
Day_12.5
Day_12.6
JRE System Library [JavaSE-1.8]
src
org.example.demo1
Program.java
Day_12.7
Day_12.8
Day7
Java Practice
JRE System Library [JavaSE-15]
src
(default package)
area.java
BMI.java
Byte1.java
challenge4.java
Demo.java
Demo1.java
Demo2.java
integerclass.java
Leap_switch.java
Leap.java
longclass.java
Main.java
month.java
overide.java
overridden.java
Demo2.java
1 class Animal
2 {
3 private String name;
4
5 public void eat()
6 {
7 System.out.println("A.eat()");
8 }
9
10 public void sleep()
11 {
12 System.out.println("A.sleep()");
13 }
14
15 }
16
17 class Dog extends Animal
18 {
19 @overridden
Problems Javadoc Declaration Console Terminal Coverage Call Hierarchy
<terminated> Demo2 [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (15-Sep-2024, 4:21:47 pm – 4:21:48 pm)
A.eat()
A.sleep()
A.eat()
Overridden method of eat()
A.sleep()
Overridden method of sleep()
D.Bark()
Writable
Smart Insert
46 : 1 : 608
ENG
IN
16:22
15-09-2024


eclipse-workspace - Java Practice/src/Demo2.java - Eclipse IDE
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Day_12.4
Day_12.5
Day_12.6
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src
org.example.demo1
Program.java
Day_12.7
Day_12.8
Day7
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BMI.java
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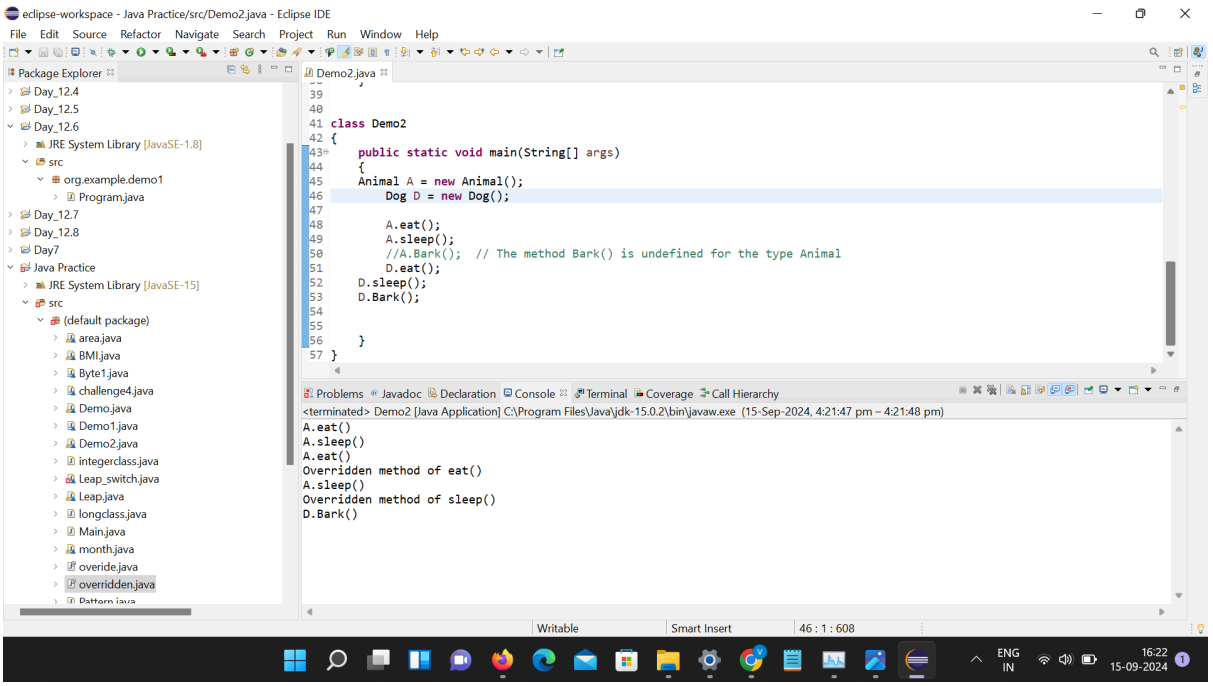
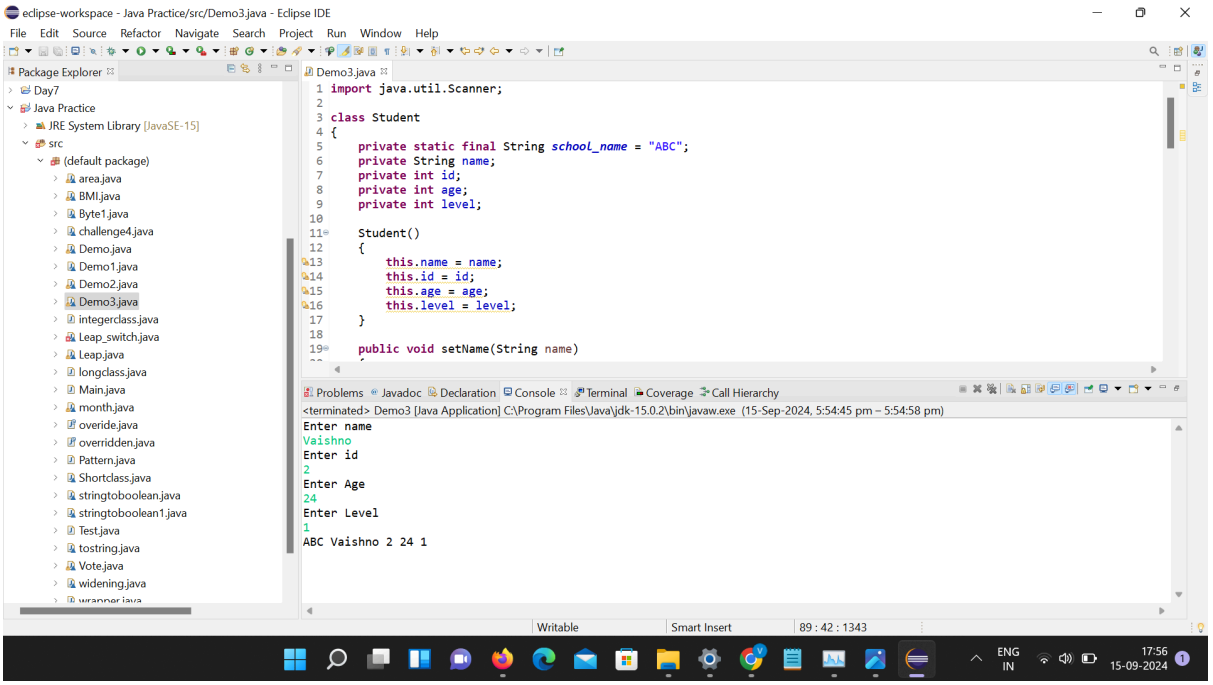
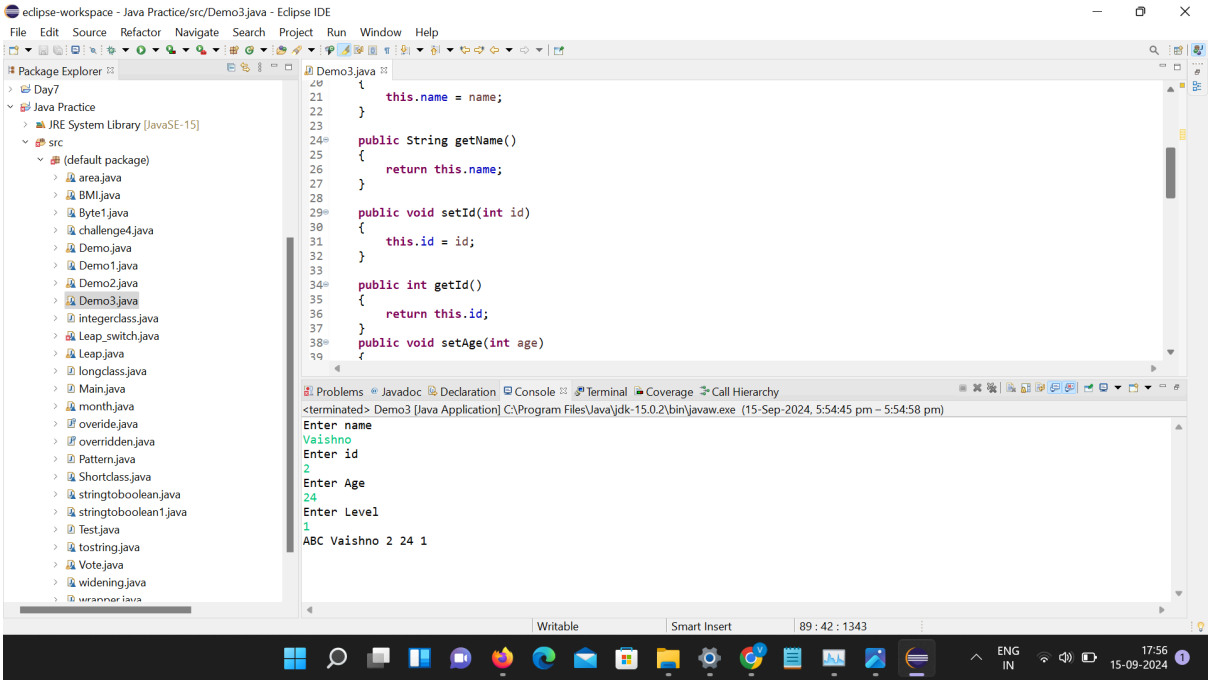
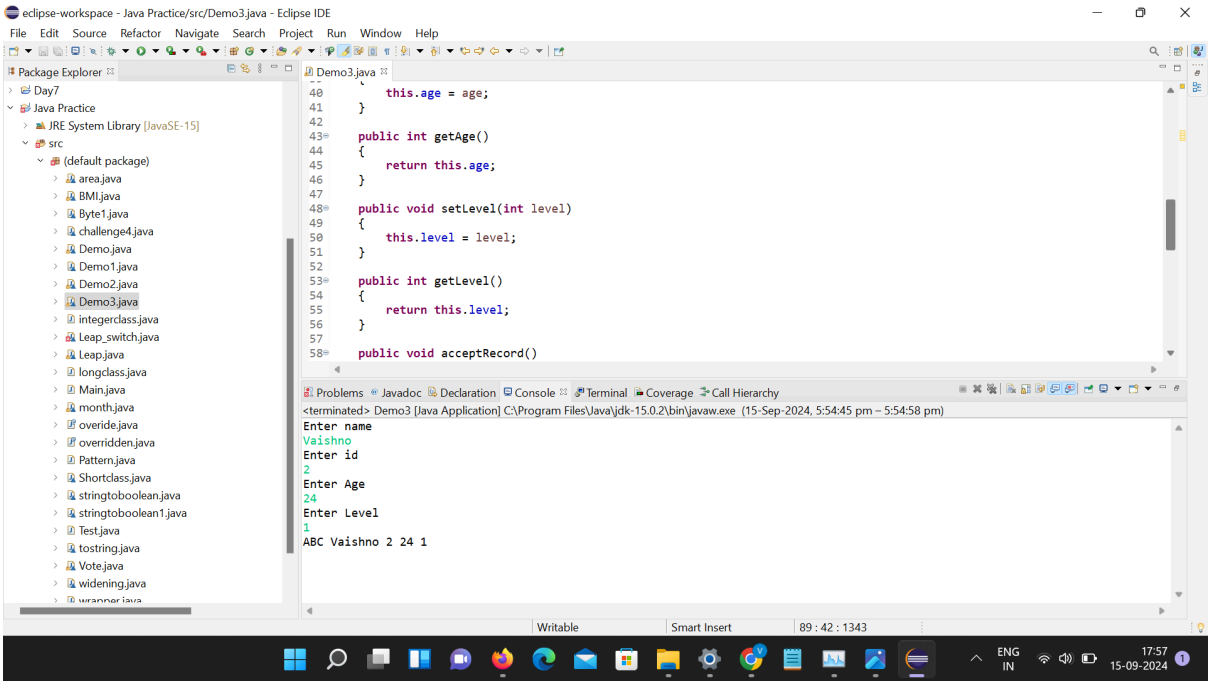
challenge4.java
Demo.java
Demo1.java
Demo2.java
integerclass.java
Leap_switch.java
Leap.java
longclass.java
Main.java
month.java
overide.java
overridden.java
Demo2.java
21 {
22 super.eat();
23 System.out.println("Overridden method of eat()");
24 }
25
26 @overridden
27 public void sleep()
28 {
29 super.sleep();
30 System.out.println("Overridden method of sleep()");
31 }
32
33 public void Bark()
34 {
35 System.out.println("D.Bark()");
36
37 }
38 }
Problems Javadoc Declaration Console Terminal Coverage Call Hierarchy
<terminated> Demo2 [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (15-Sep-2024, 4:21:47 pm – 4:21:48 pm)
A.eat()
A.sleep()
A.eat()
Overridden method of eat()
A.sleep()
Overridden method of sleep()
D.Bark()
Writable
Smart Insert
46 : 1 : 608
ENG
IN
16:22
15-09-2024



Build a class Student which contains details about the Student and compile and run its instance.




eclipse-workspace - Java Practice/src/Demo3.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Day7
Java Practice
JRE System Library [JavaSE-15]
src
(default package)
area.java
BMI.java
Byte1.java
challenge4.java
Demo.java
Demo1.java
Demo2.java
Demo3.java
integerclass.java
Leap_switch.java
Leap.java
longclass.java
Main.java
month.java
overide.java
overridden.java
Pattern.java
Shortclass.java
stringtoboolean.java
stringtoboolean1.java
Test.java
tostring.java
Vote.java
widening.java
Demo3.java
this.name = name;
public String getName()
return this.name;
public void setId(int id)
this.id = id;
public int getId()
return this.id;
public void setAge(int age)
Problems Javadoc Declaration Console Terminal Coverage Call Hierarchy
<terminated> Demo3 [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (15-Sep-2024, 5:54:45 pm – 5:54:58 pm)
Enter name
Vaishno
Enter id
2
Enter Age
24
Enter Level
1
ABC Vaishno 2 24 1
Writable
Smart Insert
89 : 42 : 1343
ENG
IN
17:56
15-09-2024


eclipse-workspace - Java Practice/src/Demo3.java - Eclipse IDE
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Java Practice
JRE System Library [JavaSE-15]
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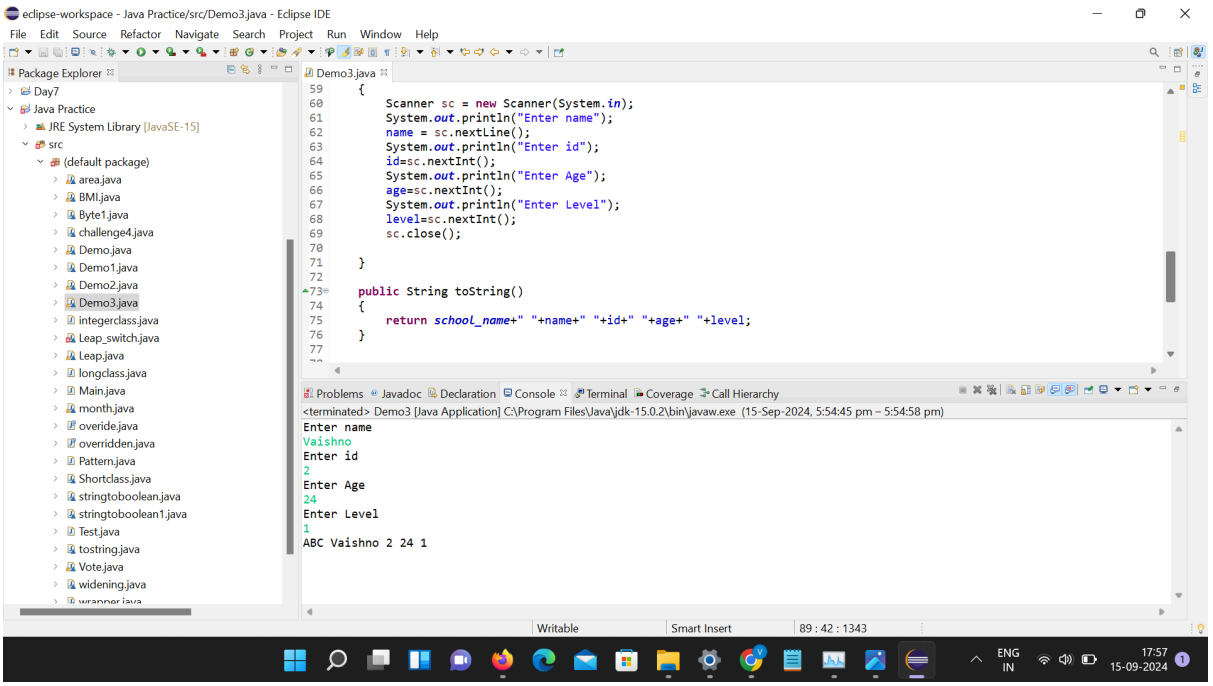
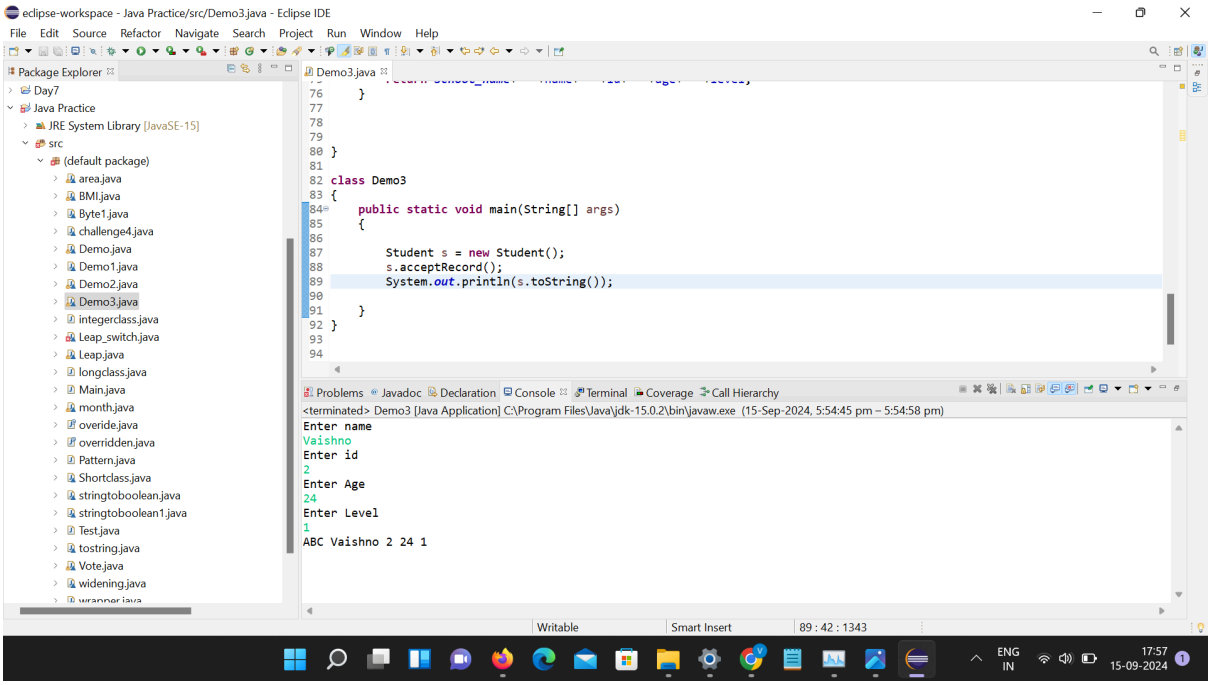
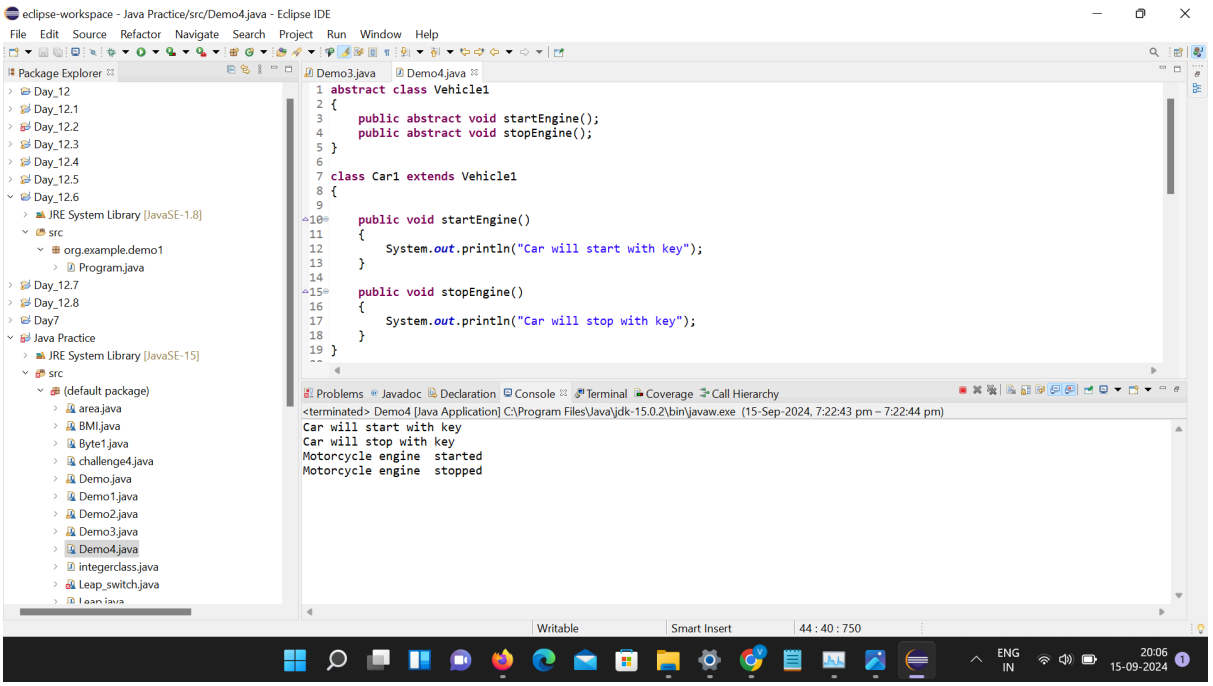
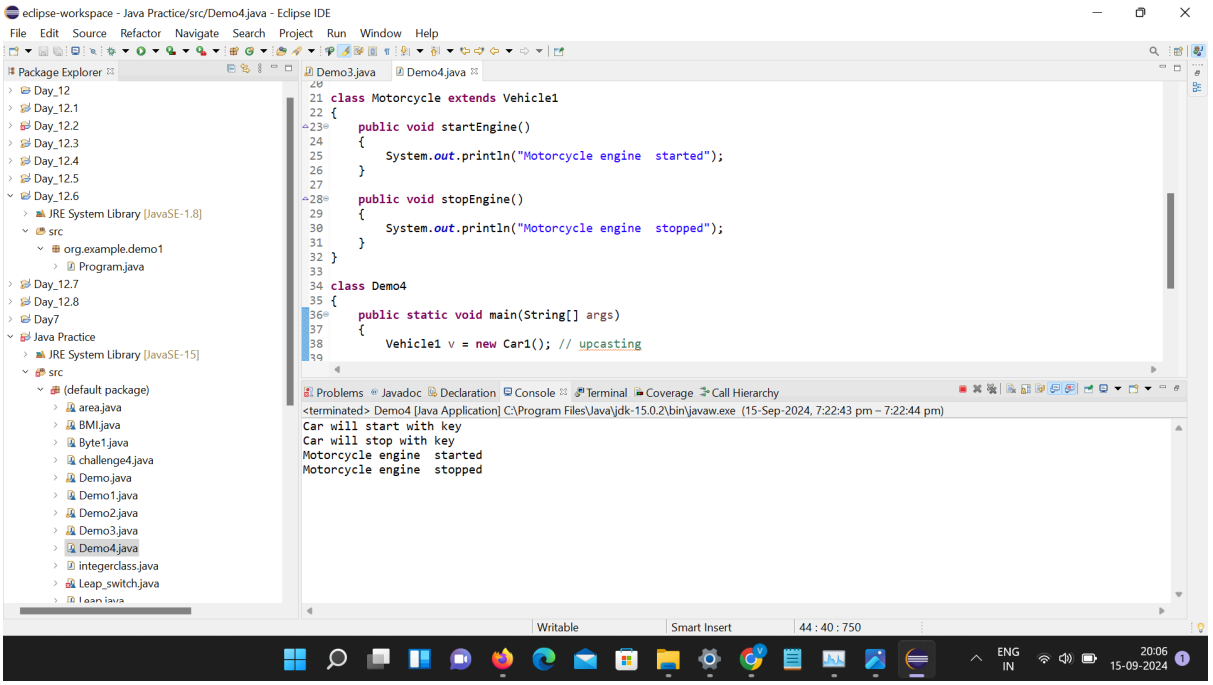
Demo.java
Demo1.java
Demo2.java
Demo3.java
integerclass.java
Leap_switch.java
Leap.java
longclass.java
Main.java
month.java
overide.java
overridden.java
Pattern.java
Shortclass.java
stringtoboolean.java
stringtoboolean1.java
Test.java
tostring.java
Vote.java
widening.java
Demo3.java
this.age = age;
public int getAge()
return this.age;
public void setLevel(int level)
this.level = level;
public int getLevel()
return this.level;
public void acceptRecord()
Problems Javadoc Declaration Console Terminal Coverage Call Hierarchy
<terminated> Demo3 [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (15-Sep-2024, 5:54:45 pm – 5:54:58 pm)
Enter name
Vaishno
Enter id
2
Enter Age
24
Enter Level
1
ABC Vaishno 2 24 1
Writable
Smart Insert
89 : 42 : 1343
ENG
IN
17:57
15-09-2024





Write a Java program to create a base class Vehicle with methods startEngine() and stopEngine(). Create two subclasses Car and Motorcycle. Override the startEngine() and stopEngine() methods in each subclass to start and stop the engines differently.


eclipse-workspace - Java Practice/src/Demo4.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Day_12
Day_12.1
Day_12.2
Day_12.3
Day_12.4
Day_12.5
Day_12.6
JRE System Library [JavaSE-1.8]
src
org.example.demo1
Program.java
Day_12.7
Day_12.8
Day7
Java Practice
JRE System Library [JavaSE-15]
src
(default package)
area.java
BMI.java
Byte1.java
challenge4.java
Demo.java
Demo1.java
Demo2.java
Demo3.java
Demo4.java
integerclass.java
Leap_switch.java
Demo3.java
Demo4.java
1 abstract class Vehicle1
2 {
3 public abstract void startEngine();
4 public abstract void stopEngine();
5 }
6
7 class Car1 extends Vehicle1
8 {
9
10 public void startEngine()
11 {
12 System.out.println("Car will start with key");
13 }
14
15 public void stopEngine()
16 {
17 System.out.println("Car will stop with key");
18 }
19 }
Problems Javadoc Declaration Console Terminal Coverage Call Hierarchy
<terminated> Demo4 [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (15-Sep-2024, 7:22:43 pm – 7:22:44 pm)
Car will start with key
Car will stop with key
Motorcycle engine started
Motorcycle engine stopped
Writable
Smart Insert
44 : 40 : 750
ENG
IN
20:06
15-09-2024


eclipse-workspace - Java Practice/src/Demo4.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Day_12
Day_12.1
Day_12.2
Day_12.3
Day_12.4
Day_12.5
Day_12.6
JRE System Library [JavaSE-1.8]
src
org.example.demo1
Program.java
Day_12.7
Day_12.8
Day7
Java Practice
JRE System Library [JavaSE-15]
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area.java
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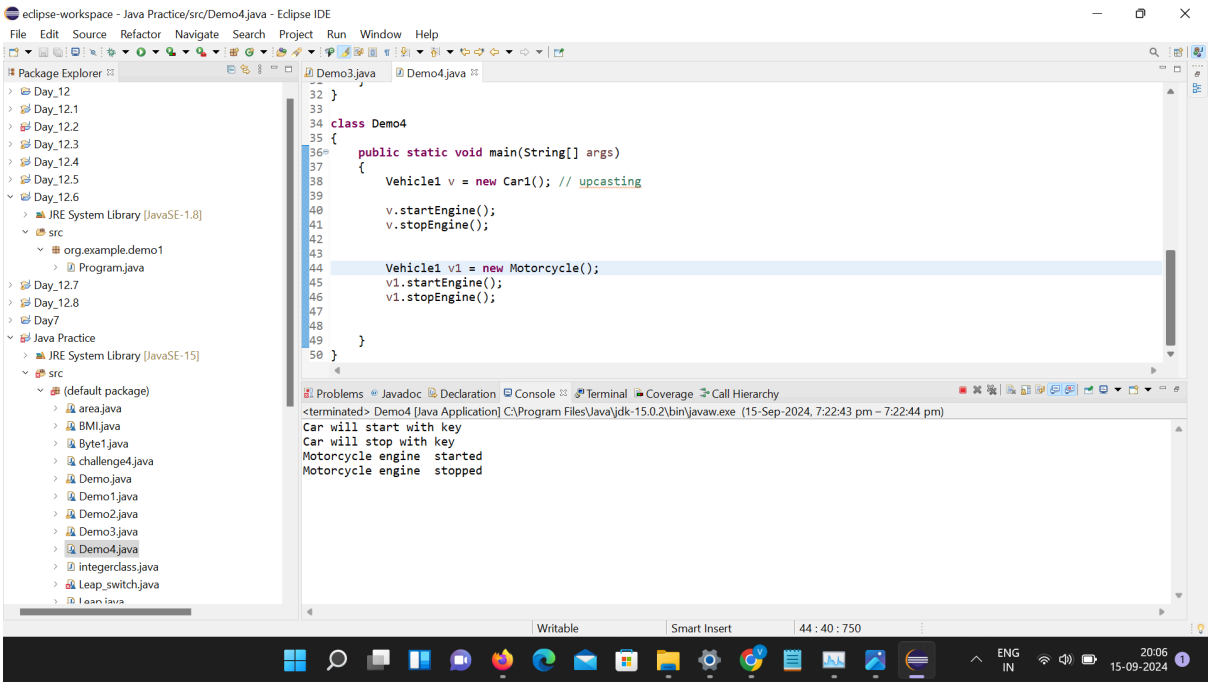
Byte1.java
challenge4.java
Demo.java
Demo1.java
Demo2.java
Demo3.java
Demo4.java
integerclass.java
Leap_switch.java
Demo3.java
Demo4.java
21 class Motorcycle extends Vehicle1
22 {
23 public void startEngine()
24 {
25 System.out.println("Motorcycle engine started");
26 }
27
28 public void stopEngine()
29 {
30 System.out.println("Motorcycle engine stopped");
31 }
32 }
33
34 class Demo4
35 {
36 public static void main(String[] args)
37 {
38 Vehicle1 v = new Car1(); // upcasting
Problems Javadoc Declaration Console Terminal Coverage Call Hierarchy
<terminated> Demo4 [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (15-Sep-2024, 7:22:43 pm – 7:22:44 pm)
Car will start with key
Car will stop with key
Motorcycle engine started
Motorcycle engine stopped
Writable
Smart Insert
44 : 40 : 750
ENG
IN
20:06
15-09-2024


eclipse-workspace - Java Practice/src/Demo4.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Day_12
Day_12.1
Day_12.2
Day_12.3
Day_12.4
Day_12.5
Day_12.6
JRE System Library [JavaSE-1.8]
src
org.example.demo1
Program.java
Day_12.7
Day_12.8
Day7
Java Practice
JRE System Library [JavaSE-15]
src
(default package)
area.java
BMI.java
Byte1.java
challenge4.java
Demo.java
Demo1.java
Demo2.java
Demo3.java
Demo4.java
integerclass.java
Leap_switch.java
Demo3.java
Demo4.java
}
class Demo4
{
public static void main(String[] args)
{
Vehicle1 v = new Car1(); // upcasting
v.startEngine();
v.stopEngine();
Vehicle1 v1 = new Motorcycle();
v1.startEngine();
v1.stopEngine();
}
}
Problems Javadoc Declaration Console Terminal Coverage Call Hierarchy
<terminated> Demo4 [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (15-Sep-2024, 7:22:43 pm – 7:22:44 pm)
Car will start with key
Car will stop with key
Motorcycle engine started
Motorcycle engine stopped
Writable
Smart Insert
44 : 40 : 750
ENG
IN
20:06
15-09-2024