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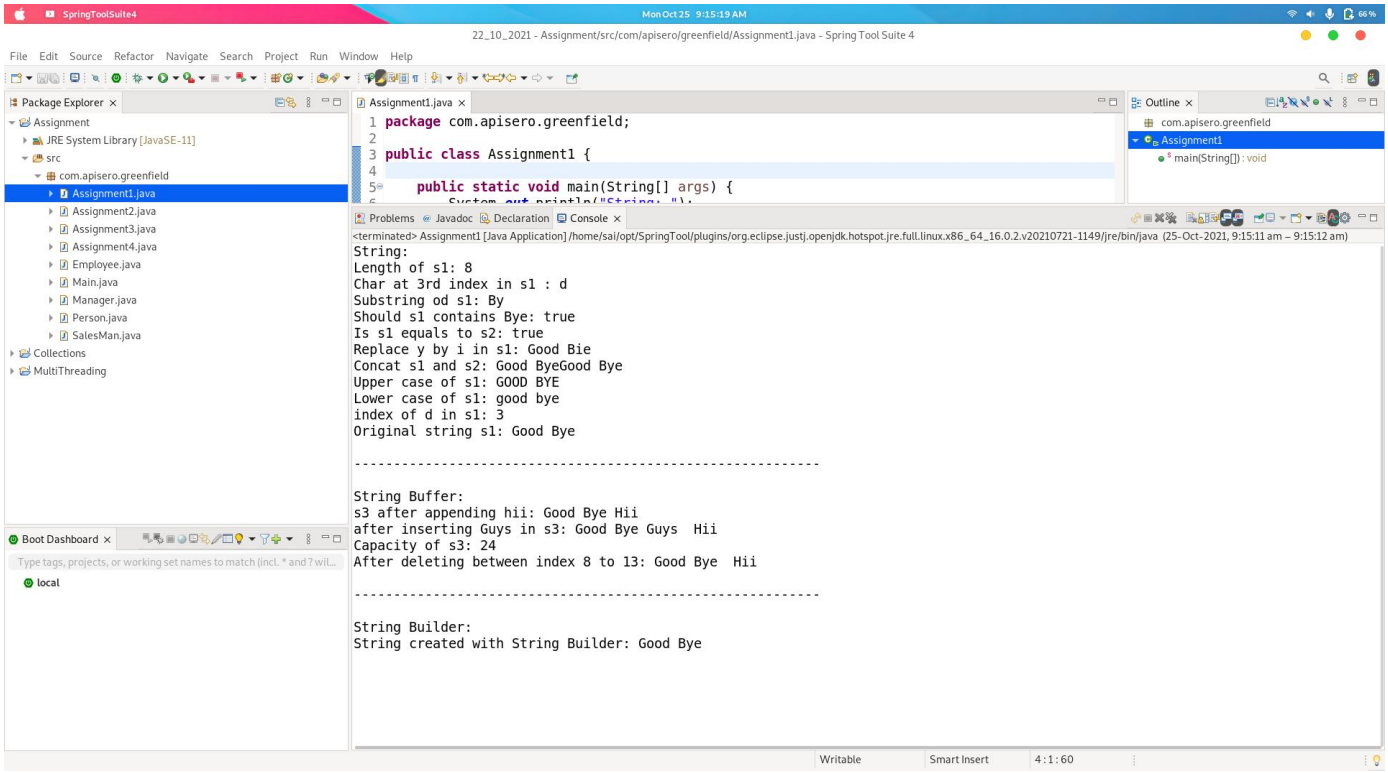
Batch: Greenfield Training Batch 31

Title: 1. Use String,StringBuffer,StringBuilder in java.

Source Code:

```
package com.apisero.greenfield;

public class Assignment1 {

	public static void main(String[] args) {
		System.out.println("String: ");
		String s1 = new String("Good Bye");
		String s2 = new String("Good Bye");
		System.out.println("Length of s1: " + s1.length());
		System.out.println("Char at 3rd index in s1 : " + s1.charAt(3));
		System.out.println("Substring od s1: " + s1.substring(5, 7));
		System.out.println("Should s1 contains Bye: " + s1.contains("Bye"));
		System.out.println("Is s1 equals to s2: " + s1.equals(s2));
		System.out.println("Replace y by i in s1: " + s1.replace('y', 'i'));
		System.out.println("Concat s1 and s2: " + s1.concat(s2));
		System.out.println("Upper case of s1: " + s1.toUpperCase());
		System.out.println("Lower case of s1: " + s1.toLowerCase());
		System.out.println("index of d in s1: " + s1.indexOf('d'));
		System.out.println("Original string s1: " + s1);
		System.out.println();
		System.out.println("-----------------------------------------------------");
		System.out.println();
		System.out.println("String Buffer: ");
		StringBuffer s3 = new StringBuffer(s1);
		s3.append(" Hii");
		System.out.println("s3 after appending hii: " + s3);
		s3.insert(8, " Guys ");
		System.out.println("after inserting Guys in s3: " + s3);
		System.out.println("Capacity of s3: " + s3.capacity());
		s3.delete(8, 13);
		System.out.println("After deleting between index 8 to 13: " + s3);

		System.out.println();
		System.out.println("-----------------------------------------------------");
		System.out.println();
		System.out.println("String Builder: ");

		StringBuilder s4 = new StringBuilder(s1);
		System.out.println("String created with String Builder: " + s4);

	}

}
```

Output:

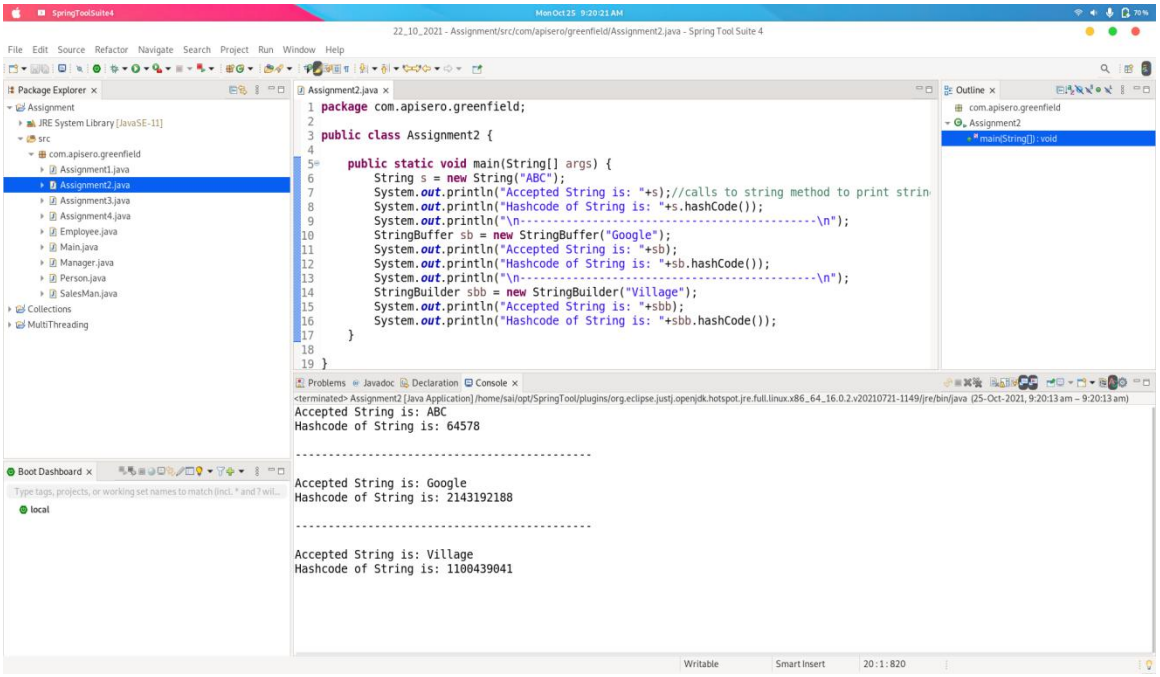


Title: 2. Accept and display String and its addresses using String,StringBuffer,StringBuilder

Source Code:

```
package com.apisero.greenfield;

public class Assignment2 {

	public static void main(String[] args) {
		String s = new String("ABC");
		System.out.println("Accepted String is: "+s);//calls to string method to print string which is overrided from object class to string class
		System.out.println("Hashcode of String is: "+s.hashCode());
		System.out.println("\n----------------------------------------\n");
		StringBuffer sb = new StringBuffer("Google");
		System.out.println("Accepted String is: "+sb);
		System.out.println("Hashcode of String is: "+sb.hashCode());
		System.out.println("\n----------------------------------------\n");
		StringBuilder sbb = new StringBuilder("Village");
		System.out.println("Accepted String is: "+sbb);
		System.out.println("Hashcode of String is: "+sbb.hashCode());
	}

}
```

Output:



Title : 3. Create AutoBoxing and UnBoxing for All data types in Java.

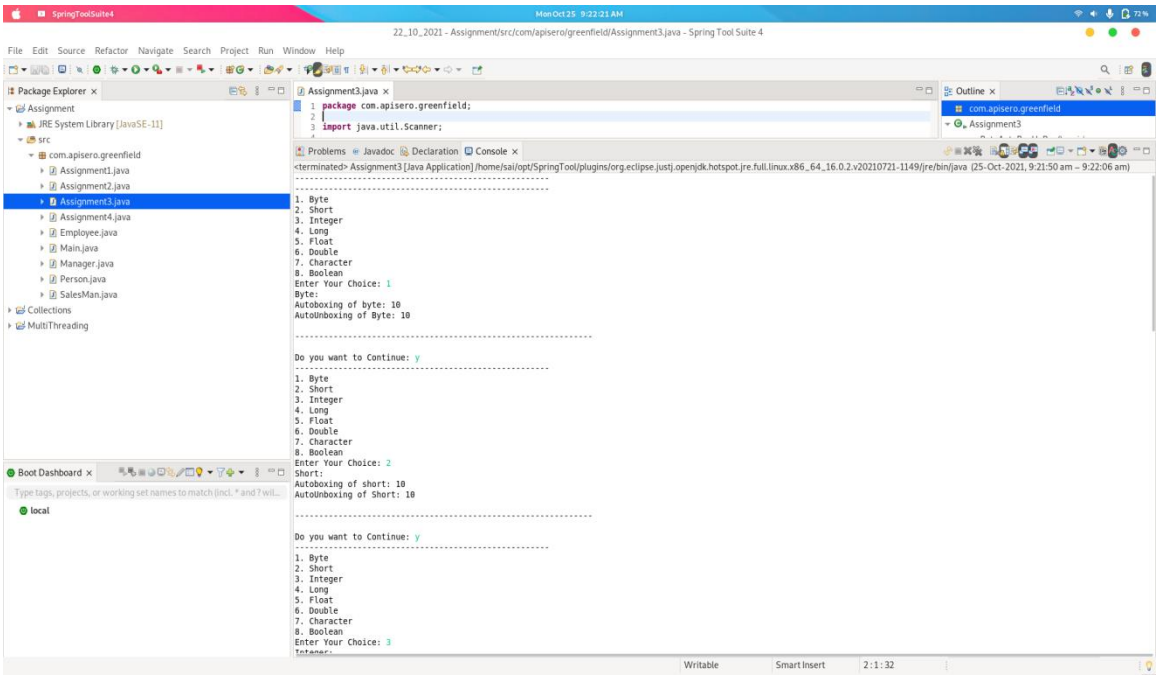
Source Code:

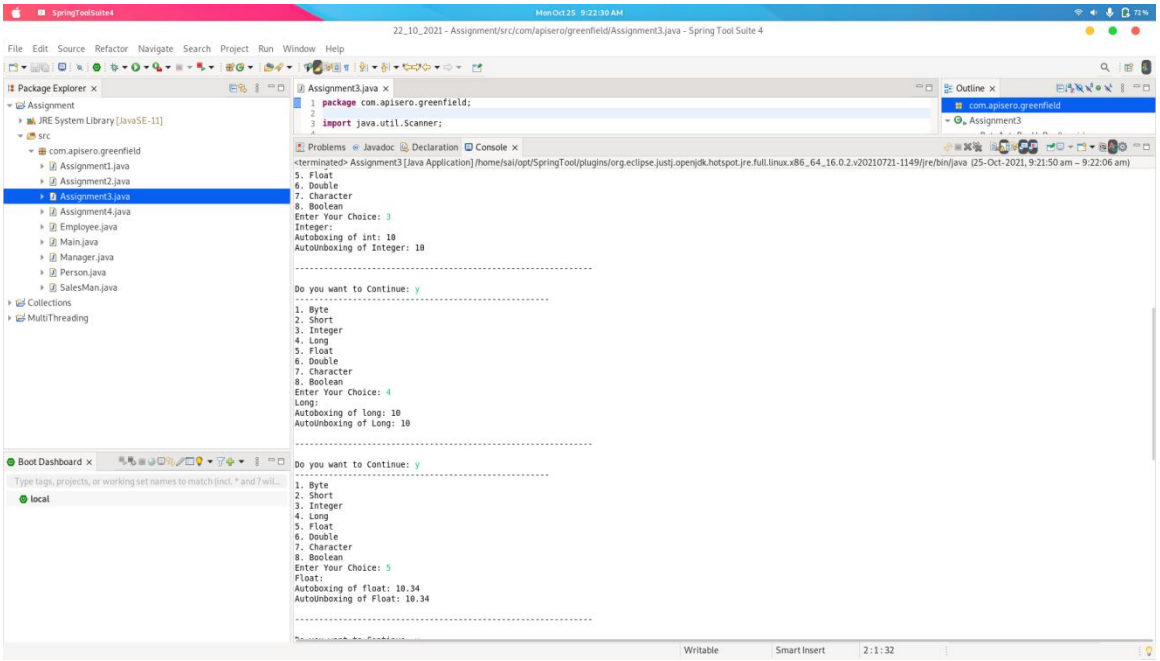
```
package com.apisero.greenfield;

import java.util.Scanner;

public class Assignment3 {
	public void ByteAutoBoxUnBox()
	{
		System.out.println("Byte: ");
		byte i = 10;
		Byte j = i;
		System.out.println("Autoboxing of byte: "+j);
		byte k = j;
		System.out.println("AutoUnboxing of Byte: "+k);
		System.out.println("\n-----------------------------------------------------------\n");
	}
	public void ShortAutoBoxUnBox()
	{
		System.out.println("Short: ");
		short i = 10;
		Short j = i;
		System.out.println("Autoboxing of short: "+j);
		short k = j;
		System.out.println("AutoUnboxing of Short: "+k);
		System.out.println("\n-----------------------------------------------------------\n");
	}
	public void IntegerAutoBoxUnBox()
	{
		System.out.println("Integer: ");
		int i = 10;
		Integer j = i;
		System.out.println("Autoboxing of int: "+j);
		int k = j;
		System.out.println("AutoUnboxing of Integer: "+k);
		System.out.println("\n-----------------------------------------------------------\n");
	}
	public void FloatAutoBoxUnBox()
	{
		System.out.println("Float: ");
		float i = 10.34f;
		Float j = i;
		System.out.println("Autoboxing of float: "+j);
```

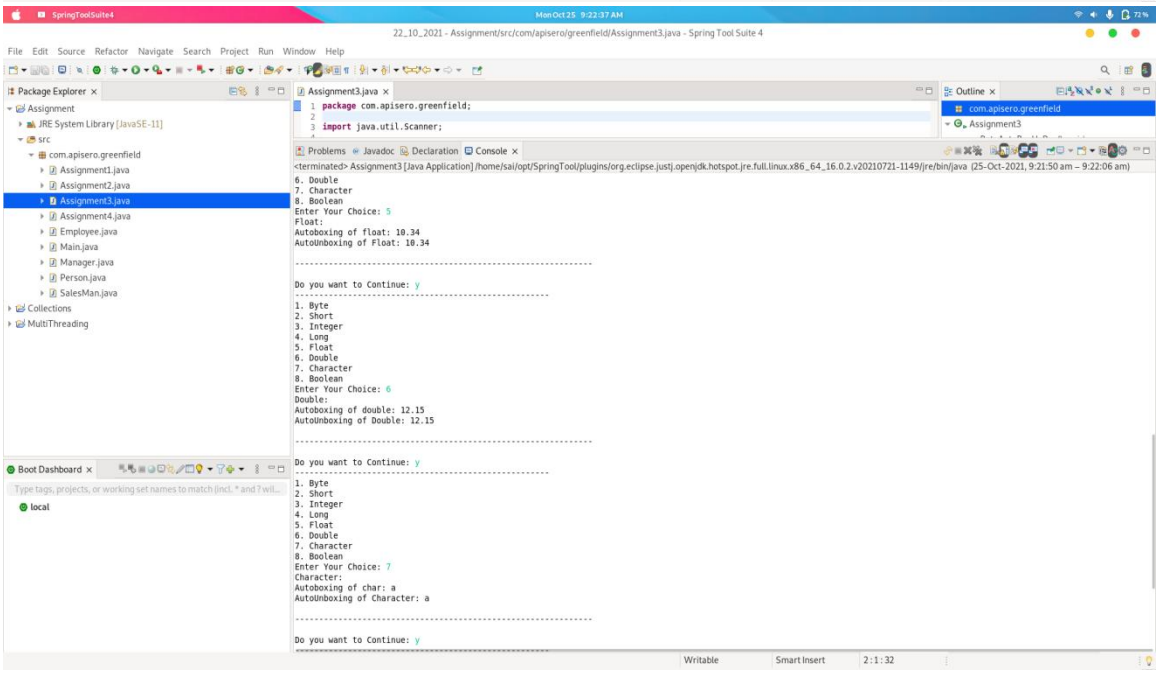
```
        float k = j;
        System.out.println("AutoUnboxing of Float: "+k);
        System.out.println("\n-----------------------------------------------------------\n");
    }
    void DoubleAutoBoxUnBox()
    {
        System.out.println("Double: ");
        double i = 12.15;
        Double j = i;
        System.out.println("Autoboxing of double: "+j);
        double k = j;
        System.out.println("AutoUnboxing of Double: "+k);
        System.out.println("\n-----------------------------------------------------------\n");
    }
    void CharacterAutoBoxUnBox()
    {
        System.out.println("Character: ");
        char i ='a';
        Character j = i;
        System.out.println("Autoboxing of char: "+j);
        char k = j;
        System.out.println("AutoUnboxing of Character: "+k);
        System.out.println("\n-----------------------------------------------------------\n");
    }
    void BooleanAutoBoxUnBox()
    {
        System.out.println("Boolean: ");
        boolean i = true;
        Boolean j = i;
        System.out.println("Autoboxing of boolean: "+j);
        boolean k = j;
        System.out.println("AutoUnboxing of Boolean: "+k);
        System.out.println("\n-----------------------------------------------------------\n");
    }
    void LongAutoBoxUnBox()
    {
        System.out.println("Long: ");
        long i = 10;
        Long j = i;
        System.out.println("Autoboxing of long: "+j);
        long k = j;
        System.out.println("AutoUnboxing of Long: "+k);
        System.out.println("\n-----------------------------------------------------------\n");
    }
    public static void main(String[] args) {
        Assignment3 a3 = new Assignment3();
        int choice;
        char ch;
        try (Scanner sc = new Scanner(System.in)) {
            System.out.println("-------------------------------------------------");

            do
            {
                System.out.println("-------------------------------------------------");
                System.out.print("1. Byte\n2. Short\n3. Integer\n4. Long\n5. Float\n6. Double\n7. Character\n8.
Boolean\nEnter Your Choice: ");
                choice = sc.nextInt();
                switch(choice)
                {
                case 1:
                    a3.ByteAutoBoxUnBox();
                    break;
                case 2:
                    a3.ShortAutoBoxUnBox();
                    break;
                case 3:
                    a3.IntegerAutoBoxUnBox();
                    break;
```

```
                case 4:
                        a3.LongAutoBoxUnBox();
                        break;
                case 5:
                        a3.FloatAutoBoxUnBox();
                        break;
                case 6:
                        a3.DoubleAutoBoxUnBox();
                        break;
                case 7:
                        a3.CharacterAutoBoxUnBox();
                        break;
                case 8:
                        a3.BooleanAutoBoxUnBox();
                        break;
                default:
                        System.out.println("Enter Proper Choice....");
                }
                System.out.print("Do you want to Continue: ");
                ch = sc.next().charAt(0);
            }while(ch == 'y');
        }
        catch(Exception e)
        {
                e.printStackTrace();
        }


    }

}
```

Output:




SpringToolSuite4
Mon Oct 25 9:22:30 AM
22_10_2021 - Assignment/src/com/apisero/greenfield/Assignment3.java - Spring Tool Suite 4
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Assignment
JRE System Library [JavaSE-11]
src
com.apisero.greenfield
Assignment1.java
Assignment2.java
Assignment3.java
Assignment4.java
Employee.java
Main.java
Manager.java
Person.java
SalesMan.java
Collections
MultiThreading
Boot Dashboard
local
Assignment3.java
1 package com.apisero.greenfield;
3 import java.util.Scanner;
Outline
com.apisero.greenfield
Assignment3
Problems Javadoc Declaration Console
<terminated> Assignment3 [Java Application] /home/sai/opt/SpringTool/plugins/org.eclipse.justj.openjdk.hotspot.jre.full.linux.x86_64_16.0.2.v20210721-1149/jre/bin/java (25-Oct-2021, 9:21:50 am – 9:22:06 am)
5. Float
6. Double
7. Character
8. Boolean
Enter Your Choice: 3
Integer:
Autoboxing of int: 10
AutoUnboxing of Integer: 10
Do you want to Continue: y
1. Byte
2. Short
3. Integer
4. Long
5. Float
6. Double
7. Character
8. Boolean
Enter Your Choice: 4
Long:
Autoboxing of long: 10
AutoUnboxing of Long: 10
Do you want to Continue: y
1. Byte
2. Short
3. Integer
4. Long
5. Float
6. Double
7. Character
8. Boolean
Enter Your Choice: 5
Float:
Autoboxing of float: 10.34
AutoUnboxing of Float: 10.34
Writable
Smart Insert
2 : 1 : 32


SpringToolSuite4
Mon Oct 25 9:22:37 AM
22_10_2021 - Assignment/src/com/apisero/greenfield/Assignment3.java - Spring Tool Suite 4
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Assignment
JRE System Library [JavaSE-11]
src
com.apisero.greenfield
Assignment1.java
Assignment2.java
Assignment3.java
Assignment4.java
Employee.java
Main.java
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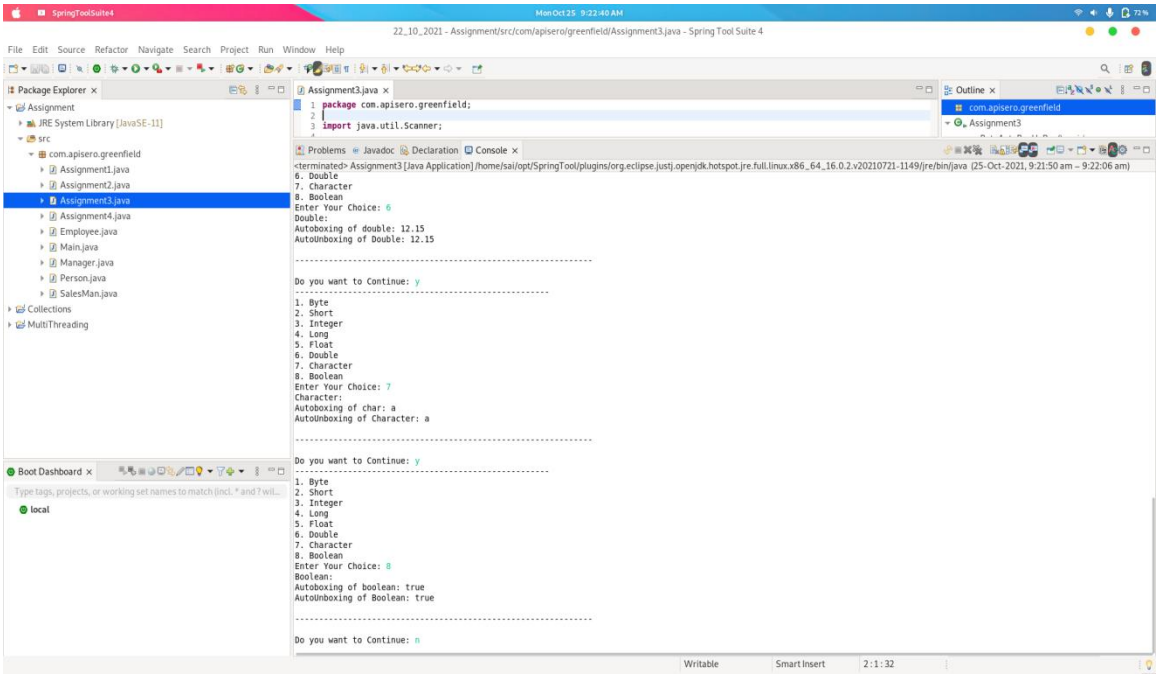
Assignment3
Problems Javadoc Declaration Console
<terminated> Assignment3 [Java Application] /home/sai/opt/SpringTool/plugins/org.eclipse.justj.openjdk.hotspot.jre.full.linux.x86_64_16.0.2.v20210721-1149/jre/bin/java (25-Oct-2021, 9:21:50 am – 9:22:06 am)
6. Double
7. Character
8. Boolean
Enter Your Choice: 5
Float:
Autoboxing of float: 10.34
AutoUnboxing of Float: 10.34
Do you want to Continue: y
1. Byte
2. Short
3. Integer
4. Long
5. Float
6. Double
7. Character
8. Boolean
Enter Your Choice: 6
Double:
Autoboxing of double: 12.15
AutoUnboxing of Double: 12.15
Do you want to Continue: y
1. Byte
2. Short
3. Integer
4. Long
5. Float
6. Double
7. Character
8. Boolean
Enter Your Choice: 7
Character:
Autoboxing of char: a
AutoUnboxing of Character: a
Do you want to Continue: y
Writable
Smart Insert
2 : 1 : 32


SpringToolSuite4
Mon Oct 25 9:22:40 AM
22_10_2021 - Assignment/src/com/apisero/greenfield/Assignment3.java - Spring Tool Suite 4
File Edit Source Refactor Navigate Search Project Run Window Help
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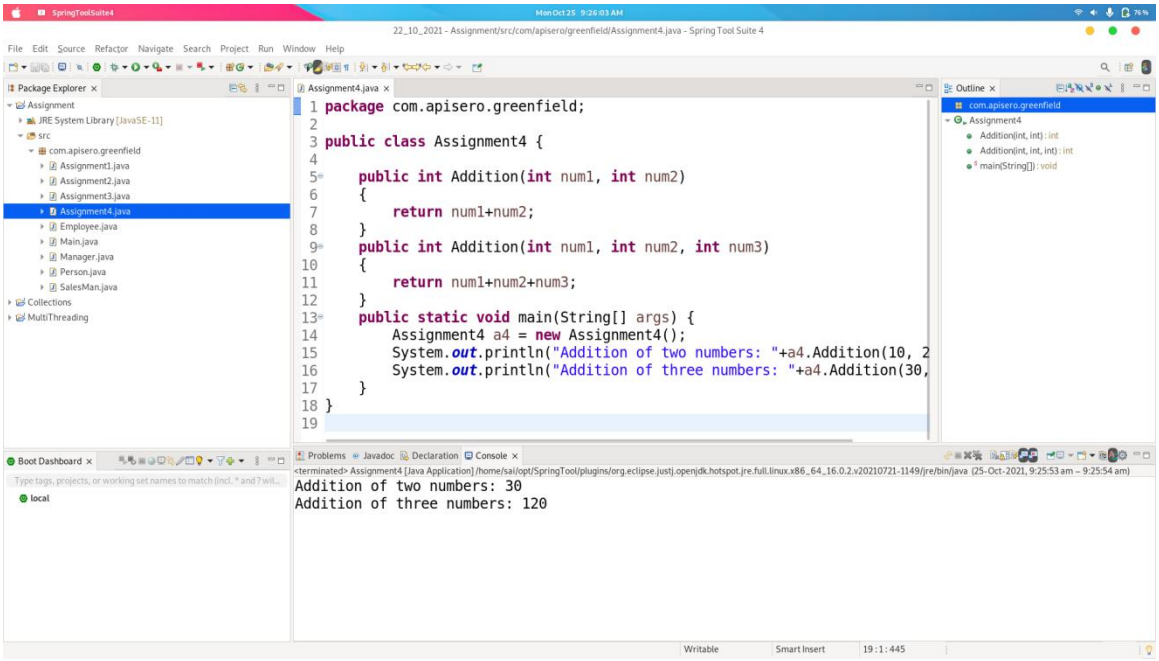
Problems Javadoc Declaration Console
<terminated> Assignment3 [Java Application] /home/sai/opt/SpringTool/plugins/org.eclipse.justj.openjdk.hotspot.jre.full.linux.x86_64_16.0.2.v20210721-1149/jre/bin/java (25-Oct-2021, 9:21:50 am – 9:22:06 am)
6. Double
7. Character
8. Boolean
Enter Your Choice: 6
Double:
Autoboxing of double: 12.15
AutoUnboxing of Double: 12.15
Do you want to Continue: y
1. Byte
2. Short
3. Integer
4. Long
5. Float
6. Double
7. Character
8. Boolean
Enter Your Choice: 7
Character:
Autoboxing of char: a
AutoUnboxing of Character: a
Do you want to Continue: y
1. Byte
2. Short
3. Integer
4. Long
5. Float
6. Double
7. Character
8. Boolean
Enter Your Choice: 8
Boolean:
Autoboxing of boolean: true
AutoUnboxing of Boolean: true
Do you want to Continue: n
Writable
Smart Insert
2 : 1 : 32

Title: 4. Overload Addition function

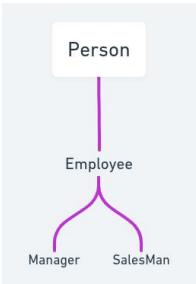
Source Code:

```
package com.apisero.greenfield;

public class Assignment4 {

	public int Addition(int num1, int num2)
	{
		return num1+num2;
	}
	public int Addition(int num1, int num2, int num3)
	{
		return num1+num2+num3;
	}
	public static void main(String[] args) {
		Assignment4 a4 = new Assignment4();
		System.out.println("Addition of two numbers: "+a4.Addition(10, 20));
		System.out.println("Addition of three numbers: "+a4.Addition(30, 40, 50));
	}
}
```

Output:



Title: 5. Override function in Multilevel Inheritance.
Title: 6. Single,Multilevel and Hierarchical inheritance with any real time objects.



Source Code:

Person.java

```
package com.apisero.greenfield;

public class Person {
```

```
	private String name;
	private int age;
	private String address;
	public Person(String name, int age, String address) {
		super();
		this.name = name;
		this.age = age;
		this.address = address;
	}
	public String getName() {
		return name;
	}
	public void setName(String name) {
		this.name = name;
	}
	public int getAge() {
		return age;
	}
	public void setAge(int age) {
		this.age = age;
	}
	public String getAddress() {
		return address;
	}
	public void setAddress(String address) {
		this.address = address;
	}
	@Override
	public String toString() {
		return "Person [name=" + name + ", age=" + age + ", address=" + address + "]";
	}

}
```

Employee.java

```
package com.apisero.greenfield;

public class Employee extends Person {
	private String id;
	private double salary;

	public Employee(String id, String name, int age, String address, double salary) {
		super(name, age, address);
		this.id = id;
		this.salary = salary;
	}

	public String getId() {
		return id;
	}

	public void setId(String id) {
		this.id = id;
	}

	public double getSalary() {
		return salary;
	}

	public void setSalary(double salary) {
		this.salary = salary;
	}

	public double calculateSalary() {
		return salary;
```

```
    }

    @Override
    public String toString() {

        return "Employee [" + super.toString() + "id=" + id + ", salary=" + salary + "]";
    }

}
```

Manager.java

```
package com.apisero.greenfield;

public class Manager extends Employee {
    private double bonus;

    public Manager(String id, String name,int age, String address, double salary, double bonus) {
        super(id, name, age, address, salary);
        this.bonus = bonus;
    }

    public double getBonus() {
        return bonus;
    }

    public void setBonus(double bonus) {
        this.bonus = bonus;
    }

    public double calculateSalary() {
        return this.getSalary() + bonus;
    }

    @Override
    public String toString() {
        return "Manager ["+super.toString()+"bonus=" + bonus + "]";
    }

    }
```

SalemsMan.java

```
package com.apisero.greenfield;

public class SalesMan extends Employee {
    public double incentive;

    public SalesMan(String id, String name, int age, String address, double salary, double incentive) {
        super(id, name, age, address, salary);
        this.incentive = incentive;
    }

    public double getIncentive() {
        return incentive;
    }

    public void setIncentive(double incentive) {
        this.incentive = incentive;
    }

    public double calculateSalary() {
        return this.getSalary() + incentive;
    }

    @Override
    public String toString() {
        return "SalesMan [" + super.toString() + "incentive=" + incentive + "]";
```

```
    }

    }
```

Main.java

```
package com.apisero.greenfield;

public class Main {

    public static void main(String[] args) {
        Employee e = new Employee("API10", "XYZ",21, "PQR", 510000.00);
        Manager e1 = new Manager("API12", "OLM",27, "RYR", 510000.00, 2000.00);
        SalesMan e2 = new SalesMan("API13", "LMN",39, "NTR", 510000.00, 1000.00);
        System.out.println(e);
        System.out.println(e1);
        System.out.println(e2);
        System.out.println("Salary is: "+e.calculateSalary());
        System.out.println("Salary is: "+e1.calculateSalary());
        System.out.println("Salary is: "+e2.calculateSalary());
    }

    }
```

Output: