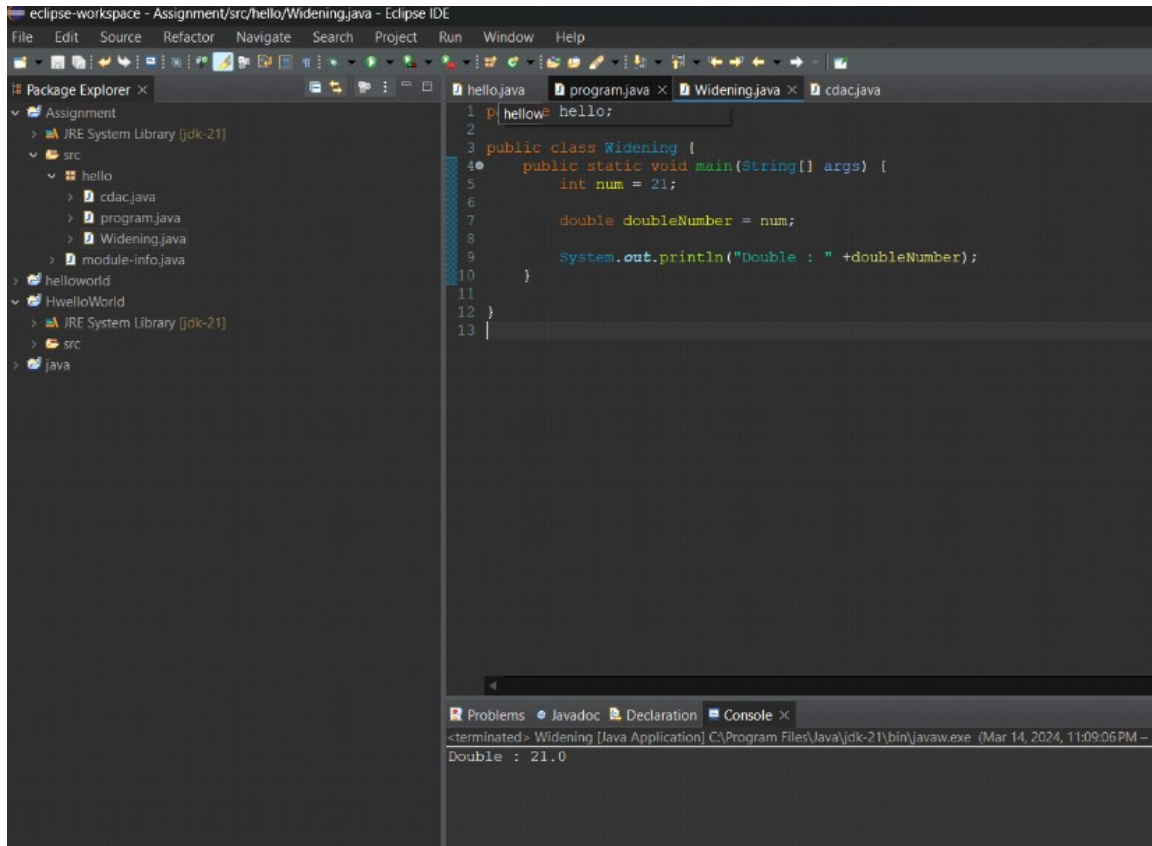


ASSIGNMENT 3 :

Q1 . Write a program that demonstrates widening conversion from int to double and prints the result.



The screenshot shows the Eclipse IDE with a workspace named 'Assignment'. The Package Explorer on the left shows a project named 'hello' with files 'cdac.java', 'program.java', 'Widening.java', and 'module-info.java'. The main editor displays the code for 'Widening.java'. The code defines a class 'Widening' with a 'main' method that takes an array of strings as an argument. Inside the 'main' method, an integer variable 'num' is initialized with the value 21. This integer is then assigned to a double variable 'doubleNumber'. Finally, the program prints the value of 'doubleNumber' to the console. The console output at the bottom shows the message 'Double : 21.0'.

```
1 p| hellowe hello;
2
3 public class Widening {
4     public static void main(String[] args) {
5         int num = 21;
6
7         double doubleNumber = num;
8
9         System.out.println("Double : " +doubleNumber);
10    }
11
12 }
13 |
```

Problems Javadoc Declaration Console
<terminated> Widening [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (Mar 14, 2024, 11:09:06 PM - 1
Double : 21.0

Q2. Create a program that demonstrates narrowing conversion from double to int and prints the result.

The screenshot shows an IDE with a Package Explorer on the left and a code editor on the right. The Package Explorer shows a project named 'Assignment' with a source folder 'src' containing files 'cdac.java', 'program.java', 'Widening.java', and 'module-info.java'. The code editor displays the contents of 'program.java', which is a Java class named 'program' with a 'main' method. The 'main' method takes a 'String[] args' array, declares a 'double doubleNumber' with the value 121.65d, casts it to an 'int integerNumber', and prints the result. The console at the bottom shows the output 'Integer Number :121'.

```
1 package hello;
2
3
4 public class program {
5
6     public static void main(String[] args) {
7         double doubleNumber = 121.65d;
8         int integerNumber = (int)doubleNumber;
9
10        System.out.println("Integer Number : " +integerNumber);
11
12
13
14
15    }
16
17 }
18
```

Console Output:

```
<terminated> program [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (Mar 14, 2024, 11:1
Integer Number :121
```

Q3. Write a program that performs arithmetic operations involving different data types (int, double, float) and observes how Java handles widening conversions automatically.

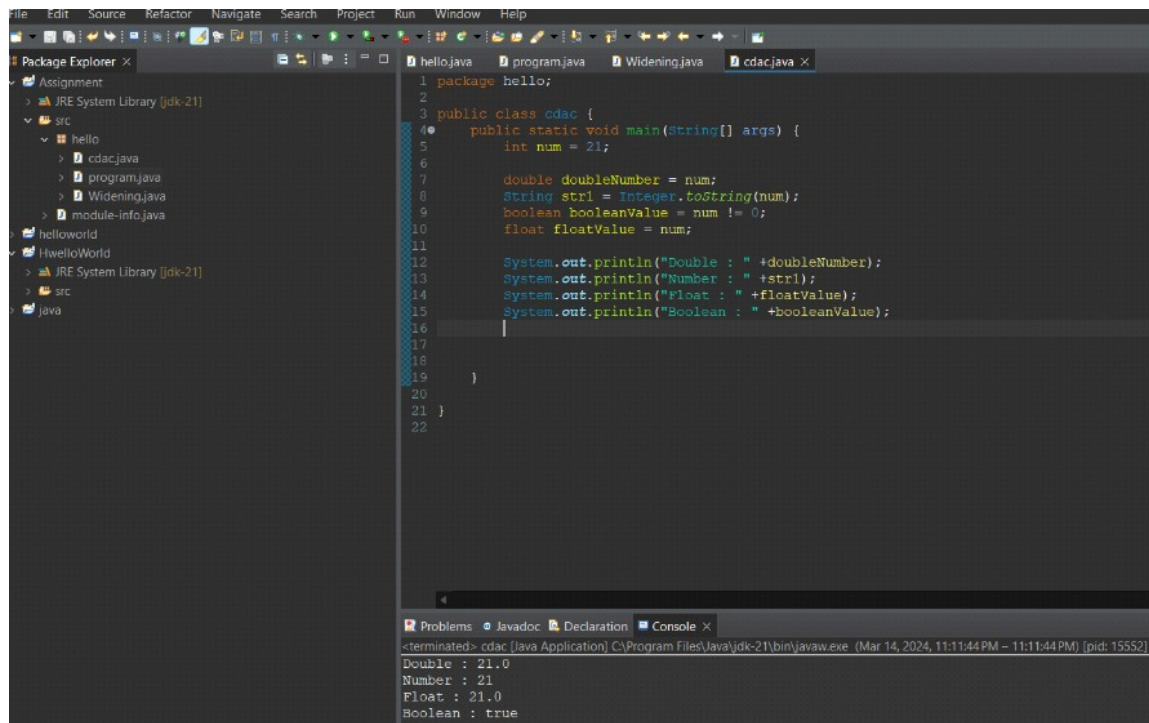
The screenshot shows an IDE with a Package Explorer on the left and a code editor on the right. The Package Explorer shows a project named 'Assignment' with a source folder 'src' containing files 'cdac.java', 'Conversion.java', 'program.java', 'Widening.java', and 'module-info.java'. The code editor displays the contents of 'Conversion.java', which is a Java class named 'Conversion' with a 'main' method. The 'main' method declares variables of type 'int', 'double', and 'float', performs addition, subtraction, multiplication, and division operations, and prints the results. The console at the bottom shows the output of these operations.

```
1 package hello;
2
3 public class Conversion {
4     public static void main(String[] args) {
5         int num = 21;
6         double doubleValue = 3.4;
7         float floatValue = 4.5f;
8
9         double addition = num + doubleValue + floatValue;
10
11        System.out.println("Addition of three numbers are : " +addition);
12
13        double subtraction = num - doubleValue - floatValue;
14
15        System.out.println("Subtraction of three numbers are : " +subtraction);
16
17        double multiplication = num * doubleValue * floatValue;
18
19        System.out.println("Multiplication of three numbers are : " +multiplication);
20
21        double division = num / doubleValue / floatValue;
22
23        System.out.println("Division of three numbers are : " +division);
24
25
26    }
27
28 }
29
```

Console Output:

```
<terminated> Conversion [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (Mar 14, 2024, 11:38:19PM - 11:38:20PM) [pid: 14796]
Addition of three numbers are : 20.9
Subtraction of three numbers are : 13.100000000000001
Multiplication of three numbers are : 321.29999999999995
Division of three numbers are : 1.3725490196078431
```

Q4 .) Write a Program that demonstrates widening conversion from int to (double,float, boolean, string) and prints the result



The screenshot shows an IDE with a package explorer on the left and a code editor on the right. The package explorer shows a project named 'Assignment' with a package 'hello' containing files 'cdac.java', 'program.java', 'Widening.java', and 'module-info.java'. The code editor shows the content of 'cdac.java'.

```
1 package hello;
2
3 public class cdac {
4     public static void main(String[] args) {
5         int num = 21;
6
7         double doubleNumber = num;
8         String str1 = Integer.toString(num);
9         boolean booleanValue = num != 0;
10        float floatValue = num;
11
12        System.out.println("Double : " +doubleNumber);
13        System.out.println("Number : " +str1);
14        System.out.println("Float : " +floatValue);
15        System.out.println("Boolean : " +booleanValue);
16    }
17
18
19 }
20
21 }
22
```

The console output at the bottom shows the results of the program execution:

```
<terminated> cdac [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (Mar 14, 2024, 11:11:44 PM - 11:11:44 PM) [pid:15552]
Double : 21.0
Number : 21
Float : 21.0
Boolean : true
```