

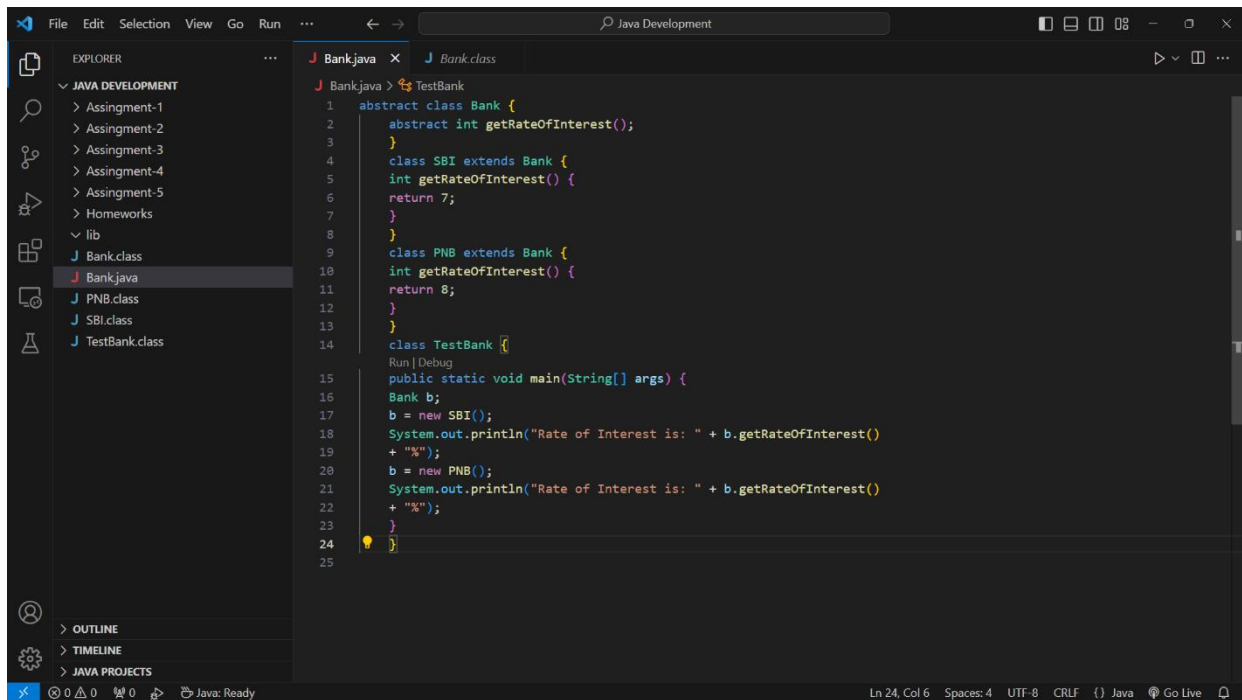
SUBMITTED BY: -

KANISHK

2205130

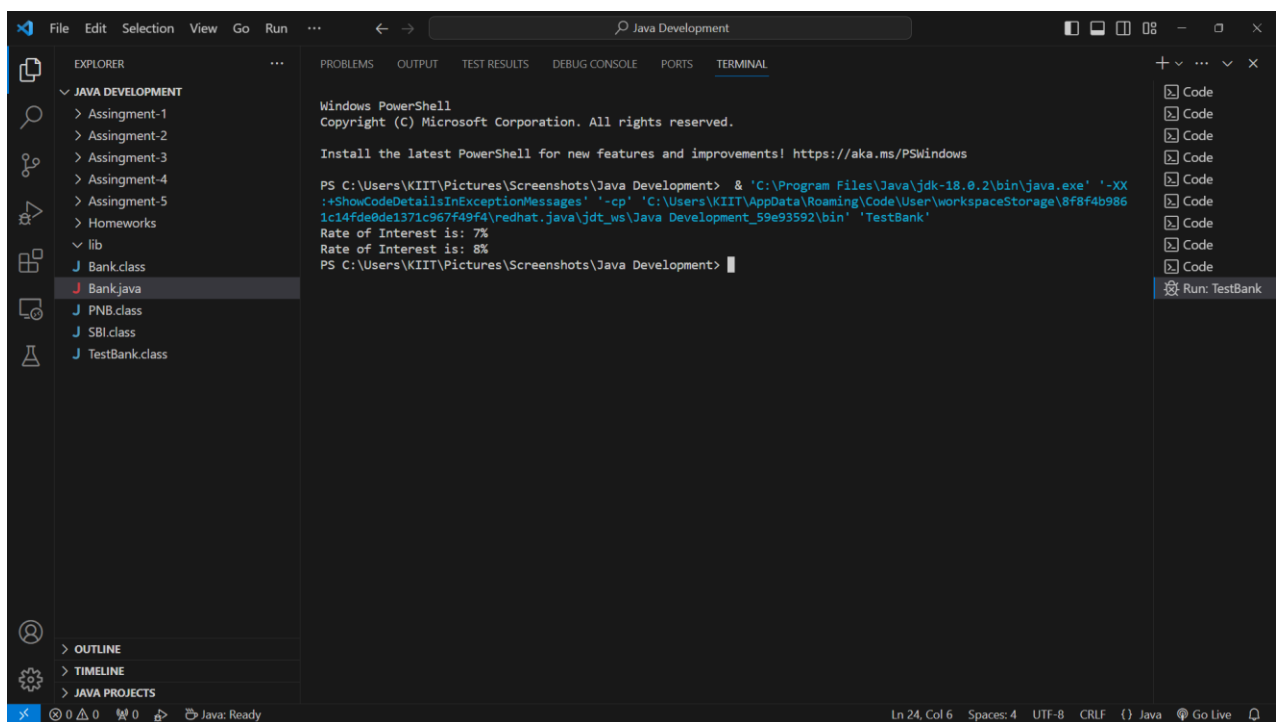
CSE-37

Q1-Write an example to demonstrate the usage of abstract' class to get details of a specific bank.



```
1 abstract class Bank {
2     abstract int getRateOfInterest();
3 }
4 class SBI extends Bank {
5     int getRateOfInterest() {
6         return 7;
7     }
8 }
9 class PNB extends Bank {
10    int getRateOfInterest() {
11        return 8;
12    }
13 }
14 class TestBank {
15     public static void main(String[] args) {
16         Bank b;
17         b = new SBI();
18         System.out.println("Rate of Interest is: " + b.getRateOfInterest()
19             + "%");
20         b = new PNB();
21         System.out.println("Rate of Interest is: " + b.getRateOfInterest()
22             + "%");
23     }
24 }
25
```

OUTPUT: -

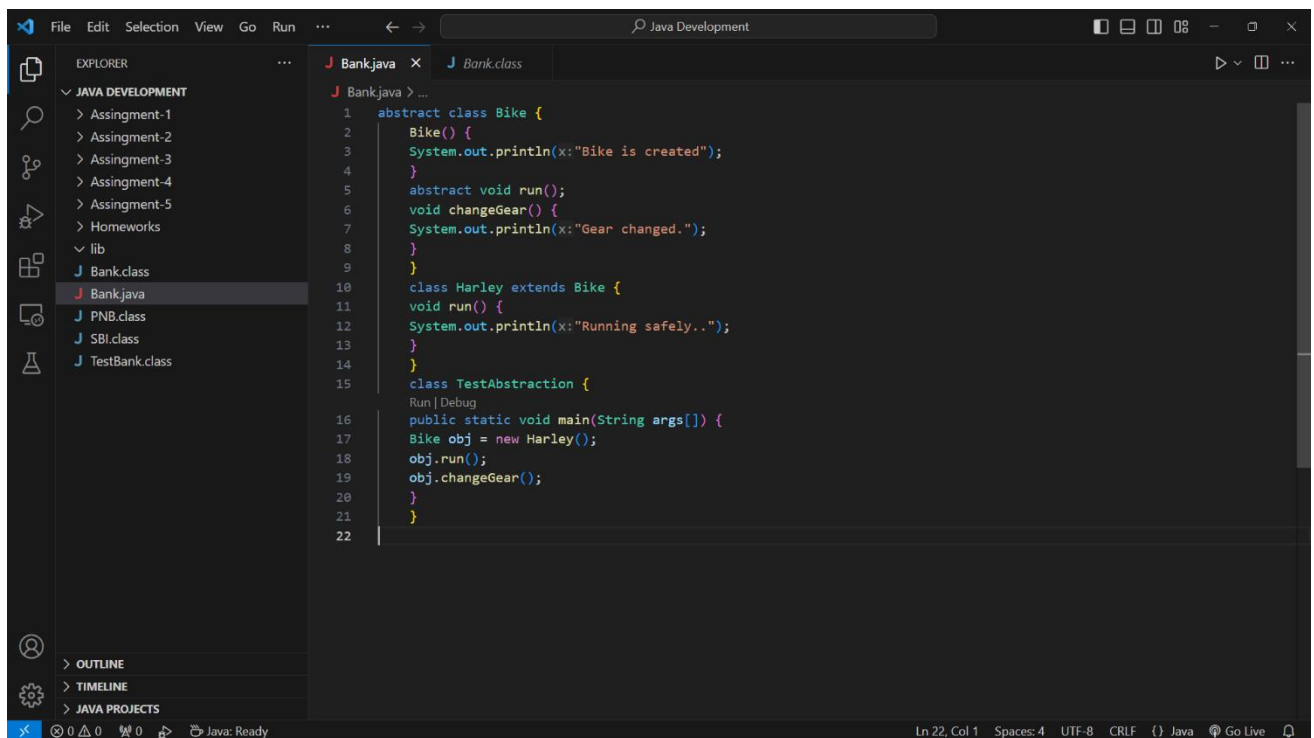


```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

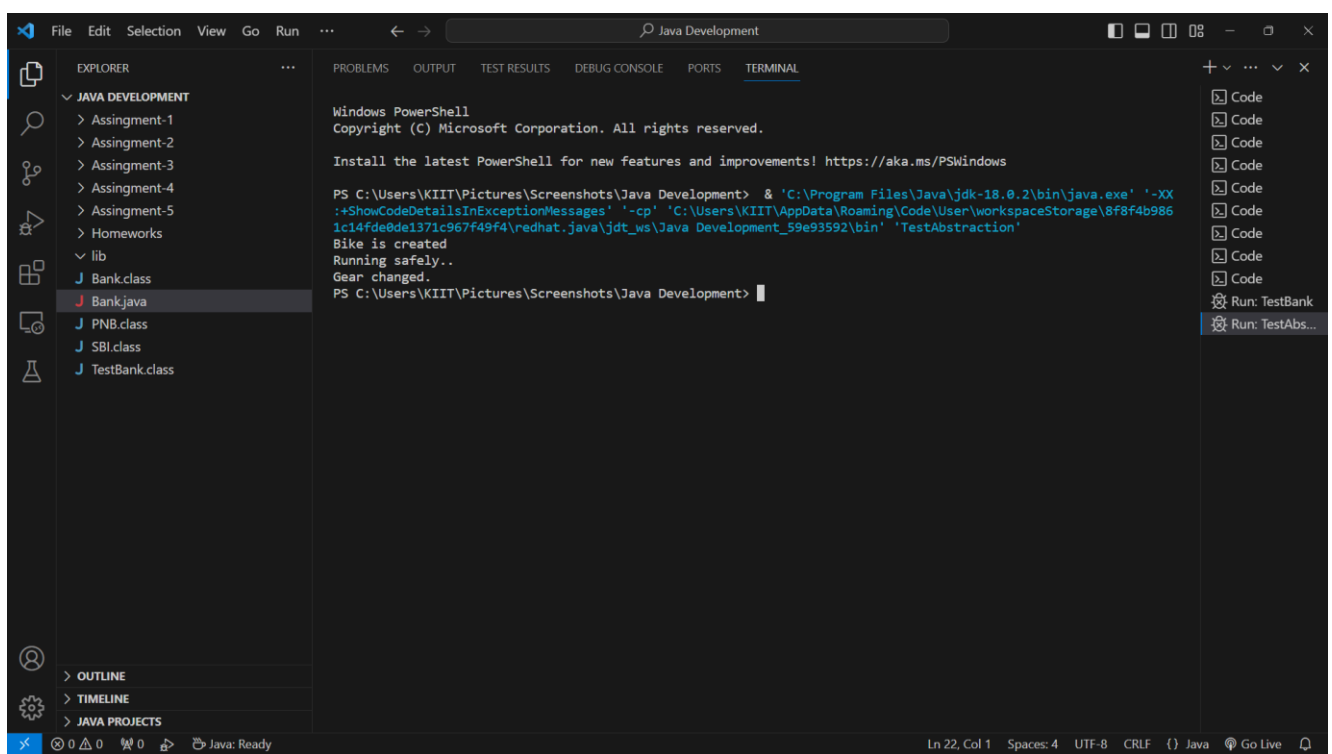
PS C:\Users\KIIT\Pictures\Screenshots\Java Development> & 'C:\Program Files\Java\jdk-18.0.2\bin\java.exe' '-XX
:ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\KIIT\AppData\Roaming\Code\User\workspaceStorage\8f8f4b986
1c14fde0de1371c967f49f4\redhat.java\jdt_ws\Java Development_59e93592\bin' 'TestBank'
Rate of Interest is: 7%
Rate of Interest is: 8%
PS C:\Users\KIIT\Pictures\Screenshots\Java Development>
```

Q2)- Write an example to demonstrate the usage of 'abstract' class.



```
1  abstract class Bike {
2      Bike() {
3          System.out.println(x:"Bike is created");
4      }
5      abstract void run();
6      void changeGear() {
7          System.out.println(x:"Gear changed.");
8      }
9  }
10 class Harley extends Bike {
11     void run() {
12         System.out.println(x:"Running safely..");
13     }
14 }
15 class TestAbstraction {
16     Run | Debug
17     public static void main(String args[]) {
18         Bike obj = new Harley();
19         obj.run();
20         obj.changeGear();
21     }
22 }
```

OUTPUT: -



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\KIIT\Pictures\Screenshots\Java Development> & 'C:\Program Files\Java\jdk-18.0.2\bin\java.exe' '-XX
:ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\KIIT\AppData\Roaming\Code\User\workspaceStorage\8f8f4b986
1c14fde0de1371c967f49f4\redhat.java\jdt_ws\Java Development_59e93592\bin' 'TestAbstraction'
Bike is created
Running safely..
Gear changed.
PS C:\Users\KIIT\Pictures\Screenshots\Java Development>
```

Q3) Write a program in Java to demonstrate the usage of Java interfaces.

The screenshot shows an IDE with the following code in the editor:

```
1 interface Drawable {
2     void draw();
3 }
4 class Rectangle implements Drawable {
5     public void draw() {
6         System.out.println(x:"Drawing rectangle");
7     }
8 }
9 class Circle implements Drawable {
10    public void draw() {
11        System.out.println(x:"Drawing circle");
12    }
13 }
14 class TestInterface {
15     Run | Debug
16     public static void main(String[] args) {
17         Drawable d = new Circle();
18         d.draw();
19     }
20 }
```

The Explorer on the left shows a project named 'JAVA DEVELOPMENT' with files: Bank.class, Bank.java, PNB.class, SBI.class, and TestBank.class. The status bar at the bottom indicates 'Ln 20, Col 1', 'Spaces: 4', 'UTF-8', 'CRLF', and 'Java'.

OUTPUT: -

The screenshot shows the same IDE with the 'TERMINAL' tab active. The output is as follows:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\KIIT\Pictures\Screenshots\Java Development> & 'C:\Program Files\Java\jdk-18.0.2\bin\java.exe' '-XX
:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\KIIT\AppData\Roaming\Code\User\workspaceStorage\8f8f4b986
1c14fde0de1371c967f49f4\redhat.java\jdt_ws\Java Development_59e93592\bin' 'TestInterface'
Drawing circle
PS C:\Users\KIIT\Pictures\Screenshots\Java Development> |
```

The Explorer on the left is the same as in the first screenshot. The status bar at the bottom indicates 'Ln 20, Col 1', 'Spaces: 4', 'UTF-8', 'CRLF', and 'Java'.

Q4) Write a program in Java to demonstrate the usage of 'interface' to get the rate of interest of a specific bank.

The screenshot shows an IDE with the following code in `Bank.java`:

```
1 interface Bank {
2     float rateOfInterest();
3 }
4 class SBI implements Bank {
5     public float rateOfInterest() {
6         return 9.15f;
7     }
8 }
9 class PNB implements Bank {
10    public float rateOfInterest() {
11        return 9.7f;
12    }
13 }
14 class TestInterface2 {
15     Run | Debug
16     public static void main(String[] args) {
17         Bank sbi = new SBI();
18         Bank pnb = new PNB();
19         System.out.println("Rate of interest: " + sbi.rateOfInterest());
20         System.out.println("Rate of interest: " + pnb.rateOfInterest());
21     }
22 }
```

The Explorer on the left shows a project structure with files: `Bank.class`, `Bank.java`, `PNB.class`, `SBI.class`, and `TestBank.class`.

OUTPUT: -

The screenshot shows the IDE with the `TERMINAL` tab active. The output is as follows:

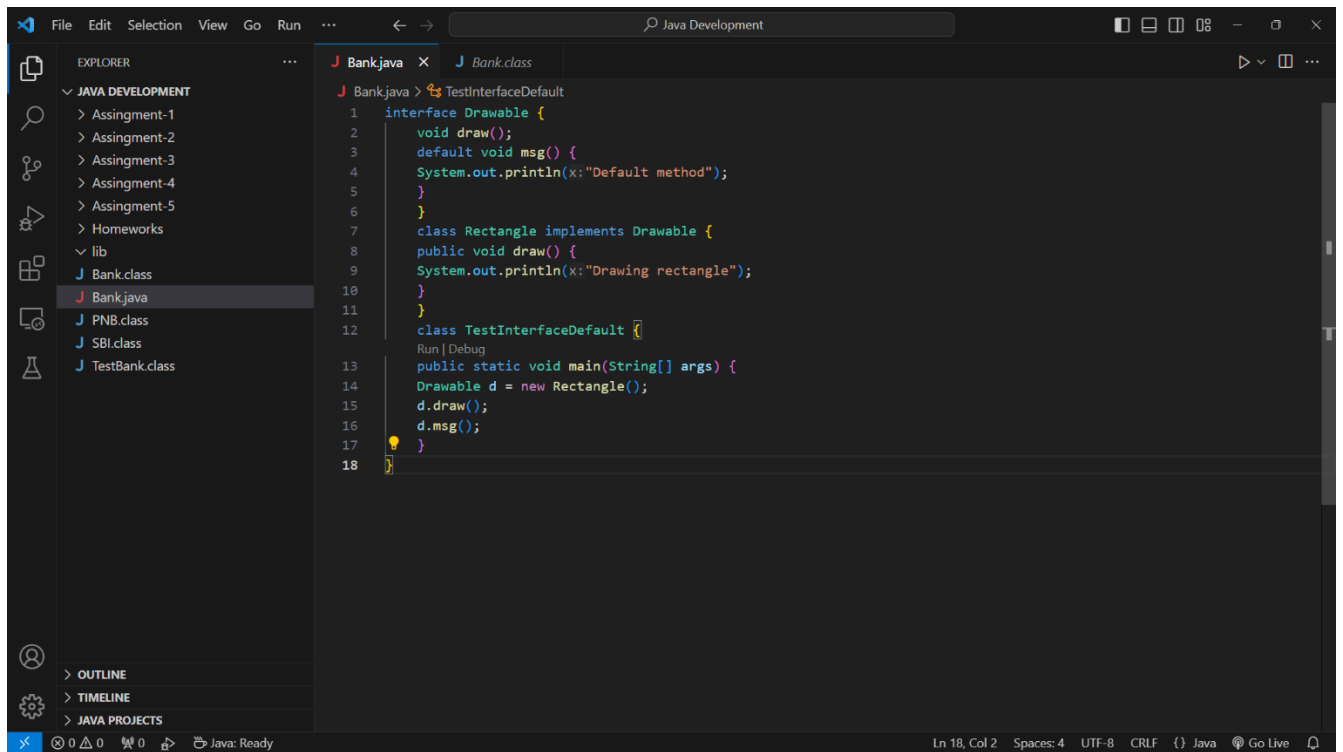
```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\KIIT\Pictures\Screenshots\Java Development> & 'C:\Program Files\Java\jdk-18.0.2\bin\java.exe' '-XX
:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\KIIT\AppData\Roaming\Code\User\workspaceStorage\8f8f4b986
1c14fde0de1371c967f49f4\redhat.java\jdt_ws\Java Development_59e93592\bin' 'TestInterface2'
Rate of interest: 9.15
Rate of interest: 9.7
PS C:\Users\KIIT\Pictures\Screenshots\Java Development> |
```

On the right side of the terminal, there is a list of actions: `Code`, `Run: TestBank`, `Run: TestAbs...`, `Run: TestInte...`, and `Run: TestInte...`.

Q5) Write a program in Java to demonstrate the usage of 'default' method inside an interface.



OUTPUT: -

