

```
1 package day5;
2
3 public abstract class Bank {
4     double balance;
5     abstract public double getBalance();
6     abstract public void deposit(double d);
7     public Bank() {
8         // TODO Auto-generated constructor stub
9     }
10 }
11
12 }
```

```
1 package day5;
2
3 public class BankB extends Bank {
4
5     public BankB() {
6         // TODO Auto-generated constructor stub
7     }
8     public void deposit(double b) {
9         this.balance=b;
10    }
11
12    @Override
13    public double getBalance() {
14        // TODO Auto-generated method stub
15        System.out.println("BANK B");
16        return balance;
17    }
18 }
19
20 }
```

```
1 package day5;
2
3 public class TesterBank {
4
5     public TesterBank() {
6         // TODO Auto-generated constructor stub
7     }
8
9     public static void main(String[] args) {
10        // TODO Auto-generated method stub
11        Bank a=new BankA();
12        Bank b=new BankB();
13        Bank c=new BankC();
14        a.deposit(100);
15        b.deposit(150);
16        c.deposit(200);
17        System.out.println(a.getBalance());
18        System.out.println(b.getBalance());
19        System.out.println(c.getBalance());
20    }
21 }
```

```
1 package day5;
2
3 public class BankA extends Bank {
4
5     public BankA() {
6         // TODO Auto-generated constructor stub
7     }
8     public void deposit(double b) {
9         this.balance=b;
10    }
11
12    @Override
13    public double getBalance() {
14        // TODO Auto-generated method stub
15        System.out.println("BANK A");
16        return balance;
17    }
18 }
19
20 }
```

```
1 package day5;
2
3 public class BankC extends Bank {
4
5     public BankC() {
6         // TODO Auto-generated constructor stub
7     }
8     public void deposit(double b) {
9         this.balance=b;
10    }
11
12    @Override
13    public double getBalance() {
14        // TODO Auto-generated method stub
15        System.out.println("BANK C");
16        return balance;
17    }
18 }
19
20 }
```

```
Console x
<terminated> TesterBank [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (28-Ja
BANK A
100.0
BANK B
150.0
BANK C
200.0
```

```
MyCalculator.java ×
1 package assignment1_d5;
2
3 public class MyCalculator implements AdvancedArithmetic {
4
5     public MyCalculator() {
6         // TODO Auto-generated constructor stub
7     }
8
9     @Override
10    public int divisor_sum(int n) {
11        // TODO Auto-generated method stub
12        if(n>1000)return -1;
13        int s=0;
14        for(int i=1;i<Math.sqrt(n);i++) {
15            if(n%i==0) {
16                s+=i;
17            }
18        }
19        return s;
20    }
21
22    public static void main(String[] args) {
23        MyCalculator a=new MyCalculator();
24        System.out.println(a.divisor_sum(50));
25        System.out.println(a.divisor_sum(1250));
26        System.out.println(a.divisor_sum(500));
27    }
28 }
29
30 }
31
```

```
AdvancedArithmetic.java ×
1 package assignment1_d5;
2
3 public interface AdvancedArithmetic {
4     public int divisor_sum(int n);
5 }
6
```

Console ×

&lt;terminated&gt; MyCalculator (1) [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (28-Jan-2023, 1:56:25 am – 1:56:25 am) [pid: 3736]

```
8
-1
42
```

Project Explorer

- > javaBasics\_NRIFT (in HelloWorldProj) [HelloWorldProj master]
  - > JRE System Library [JavaSE-17]
  - > src
    - > (default package)
    - > assignment1\_d4
    - > assignment1\_d5
      - AdvancedArithmetic.java
      - Bank.java
      - BankA.java
      - BankB.java
      - BankC.java
      - CitiesSearch.java
      - MyCalculator.java
      - TesterBank.java
    - > assignment2\_d4
    - > day4
    - > day5
    - > day6\_collections
    - > day6\_gui

Console

&lt;terminated&gt; CitiesSearch [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (28-Jan-2024 10:53)

```
Ko1
De1
assignment1_d5.CitiesSearch$CityNotFoundException: City Not Found
    at assignment1_d5.CitiesSearch.getCity(CitiesSearch.java:46)
    at assignment1_d5.CitiesSearch.main(CitiesSearch.java:66)
```

```
31 public CityNotFoundException(Throwable cause) {
32     super(cause);
33     // TODO Auto-generated constructor stub
34 }
35
36 /**
37  *
38  */
39 // private static final long serialVersionUID = 1L;
40
41 }
42
43 public String getCity(String key) throws CityNotFoundException {
44     String val = city.get(key);
45     if (val == null)
46         throw new CityNotFoundException("City Not Found");
47     return val;
48 }
49
50 public void setCity(String key, String value) {
51     city.put(key, value);
52 }
53
54 public CitiesSearch() {
55     // TODO Auto-generated constructor stub
56     city = new HashMap<String, String>();
57 }
58
59 public static void main(String[] args) {
60     CitiesSearch c = new CitiesSearch();
61     c.setCity("700032", "Ko1");
62     c.setCity("100000", "De1");
63     try {
64         System.out.println(c.getCity("700032"));
65         System.out.println(c.getCity("100000"));
66         System.out.println(c.getCity("700035"));
67     } catch (Throwable e) {
68         // TODO Auto-generated catch block
69         e.printStackTrace();
70     }
71 }
72 }
73 }
74 }
```

Writable

Smart Insert

1:1:0