

Selected files

4 printable files

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CS5800_HW1\CS5800_Q2\src\com\cpp\cs5800q2\CS5800_Q2.java

```
1 package com.cpp.cs5800q2;
2
3 import java.util.ArrayList;
4
5 public class CS5800_Q2 {
6
7     public static void main(String[] args) {
8         ArrayList<Payable> payables = new ArrayList<>();
9
10        payables.add(new Freelancer("Joe", "Jonas", 23.0, 40.0));
11        payables.add(new Freelancer("Nick", "Jonas", 25.0, 46.3));
12
13        payables.add(new VendorInvoice("Jonas Brothers Corporation", "INV-12345", 50000.00));
14        payables.add(new VendorInvoice("Cartoon Network", "INV-54321", 999.99));
15
16        double totalPayout = 0;
17
18        for (Payable p : payables) {
19            if (p instanceof Freelancer) {
20                ((Freelancer) p).print();
21            }
22            else {
23                ((VendorInvoice) p).print();
24            }
25            totalPayout += p.calculatePayment();
26        }
27    }
```

```
28         System.out.printf("%nTotal payout for this period: $%.2f%n", totalPayout);
29
30
31     }
32
33 }
34
35
```

CS5800_HW1\CS5800_Q2\src\com\cpp\cs5800q2\Freelancer.java

```
1  package com.cpp.cs5800q2;
2
3  public class Freelancer implements Payable {
4
5      public String firstName;
6      public String lastName;
7      public double hourlyRate;
8      public double hoursWorked;
9
10     public Freelancer(String firstName, String lastName, double hourlyRate, double hoursWorked) {
11         this.firstName = firstName;
12         this.lastName = lastName;
13         setHourlyRate(hourlyRate);
14         setHoursWorked(hoursWorked);
15     }
16
17     public String getFirstName() {
18         return firstName;
19     }
20
21     public void setFirstName(String firstName)
22     {
23         this.firstName = firstName;
24     }
25
26     public String getLastName() {
27         return lastName;
28     }
29 }
```

```
29
30     public void setLastName(String lastName)
31     {
32         this.lastName = lastName;
33     }
34
35     public double getHourlyRate() {
36         return hourlyRate;
37     }
38
39     public void setHourlyRate(double hourlyRate) {
40         if (hourlyRate < 0) {
41             throw new IllegalArgumentException("Error: Hourly rate can't be negative!");
42         }
43         this.hourlyRate = hourlyRate;
44     }
45
46     public double getHoursWorked() {
47         return hoursWorked;
48     }
49
50     public void setHoursWorked(double hoursWorked) {
51         if (hoursWorked < 0) {
52             throw new IllegalArgumentException("Error: Hours worked can't be negative!");
53         }
54         this.hoursWorked = hoursWorked;
55     }
56
57     @Override
58     public double calculatePayment() {
59         if (hoursWorked <= 40) {
60             return hourlyRate * hoursWorked;
61         }
62         else {
63             return (40 * hourlyRate) + ((hoursWorked - 40) * hourlyRate * 1.5);
64         }
65     }
66
```

```
67     @Override
68     public String getPayeeName() {
69         return firstName + " " + lastName;
70     }
71
72     public void print() {
73         System.out.printf("Freelancer: %s | Calculated Payment for this period: $%.2f%n", getPayeeName(), calculatePayment());
74     }
75
76 }
77
```

CS5800_HW1\CS5800_Q2\src\com\cpp\cs5800q2\Payable.java

```
1 package com.cpp.cs5800q2;
2
3 interface Payable {
4     double calculatePayment();
5     String getPayeeName();
6 }
7
```

CS5800_HW1\CS5800_Q2\src\com\cpp\cs5800q2\VendorInvoice.java

```
1 package com.cpp.cs5800q2;
2
3 public class VendorInvoice implements Payable {
4
5     private String vendorName;
6     private String invoiceNumber;
7     private double amountDue;
8
9     public VendorInvoice(String vendorName, String invoiceNumber, double amountDue) {
10         this.vendorName = vendorName;
11         this.invoiceNumber = invoiceNumber;
12         setAmountDue(amountDue);
13     }
14
15 }
```

```
16     public String getVendorName() {
17         return vendorName;
18     }
19
20     public void setVendorName(String vendorName)
21     {
22         this.vendorName = vendorName;
23     }
24
25     public String getInvoiceNumber() {
26         return invoiceNumber;
27     }
28
29     public void setInvoiceNumber(String invoiceNumber)
30     {
31         this.invoiceNumber = invoiceNumber;
32     }
33
34     public double getAmountDue() {
35         return amountDue;
36     }
37
38     public void setAmountDue(double amountDue) {
39         if (amountDue < 0) {
40             throw new IllegalArgumentException("Error: Amount Due can't be negative!");
41         }
42         this.amountDue = amountDue;
43     }
44
45     @Override
46     public double calculatePayment() {
47         return amountDue;
48     }
49
50     @Override
51     public String getPayeeName() {
52         return getVendorName();
53     }
```

```
54  
55     public void print() {  
56         System.out.printf("Vendor: %s | Invoice #: %s | Payment: $%.2f%n", getPayeeName(), invoiceNumber, calculatePayment());  
57     }  
58  
59 }  
60
```