

## Software Tools 4

### Assignment 2 Part 1

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1. Marvel Enterprise needs a program to calculate how much to pay their hourly employees. The Indian Department of Labor requires that employees get paid time and a half for any hours over 40 that they work in a single week. For example, if an employee works 45 hours, they get 5 hours of overtime, at 1.5 times their base pay. The Indian Department of Labor requires that hourly employees are paid at least 400Rs. an hour. Satyam Corp requires that an employee not work more than 60 hours in a week.

#### Summary of Rules:

An employee gets paid  $(\text{hours worked}) \times (\text{base pay})$ , for each hour up to 40 hours.

For every hour over 40, they get overtime =  $(\text{base pay}) \times 1.5$ .

The base pay must not be less than the minimum wage (400Rs. an hour). If it is, print an error.

If the number of hours is greater than 60, print an error message.

#### Directions to Implement:

Create a new class called MarvelEnterprise. Write a method that takes the base pay and hours worked as parameters, and prints the total pay or an error. Write a main method that calls this method for each of these employees:

#### Answer:

```
import java.util.Scanner;

public class MarvelEnterprise {

    static double getPayment(double basePay, double hours) throws Exception {
        if(hours>60)
            throw new Exception("Maximum Working Hours Error: Maximum Working Hours
should not exceed 60!");

        if(basePay<400)
            throw new Exception("Minimum Wage Error: Minimum Wage should be more
than 400!");

        double m = Math.min(hours,40);
        return m*(basePay) + (hours-m)*basePay*1.5;
    }

    public static void main(String[] args){
```

```

try{
    Scanner sc = new Scanner(System.in);

    System.out.print("Base Pay: ");
    double basePay = Double.parseDouble((sc.nextLine()));

    System.out.print("Hours: ");
    double hours = Double.parseDouble((sc.nextLine()));

    double salary = getPayment(basePay, hours);

    System.out.println("Salary: "+String.format("%.2f", salary));

    sc.close();
}catch(Exception e){
    System.out.println("Program exited due to an unforeseen error!"
"+e.getMessage());
}
}
}

```

Hi there, Boss!

krhero@hellblazer:/mnt/0FB812900FB81290/BTech/Assignments/3rd\_Year/ST4/Assignment2\$ java ./MarvelEnterprise.java

Base Pay: 350

Hours: 35

Program exited due to an unforeseen error! Minimum Wage Error: Minimum Wage should be more than 400!

krhero@hellblazer:/mnt/0FB812900FB81290/BTech/Assignments/3rd\_Year/ST4/Assignment2\$

krhero@hellblazer:/mnt/0FB812900FB81290/BTech/Assignments/3rd\_Year/ST4/Assignment1.2\$ java ./MarvelEnterprise.java

Base Pay: 420

Hours: 47

Salary: 21210.00

krhero@hellblazer:/mnt/0FB812900FB81290/BTech/Assignments/3rd\_Year/ST4/Assignment2\$ java ./MarvelEnterprise.java

Base Pay: 510

Hours: 73

Program exited due to an unforeseen error! Maximum Working Hours Error: Maximum Working Hours should not exceed 60!