CS218 Lab 2 - 8/8/25 Solutions

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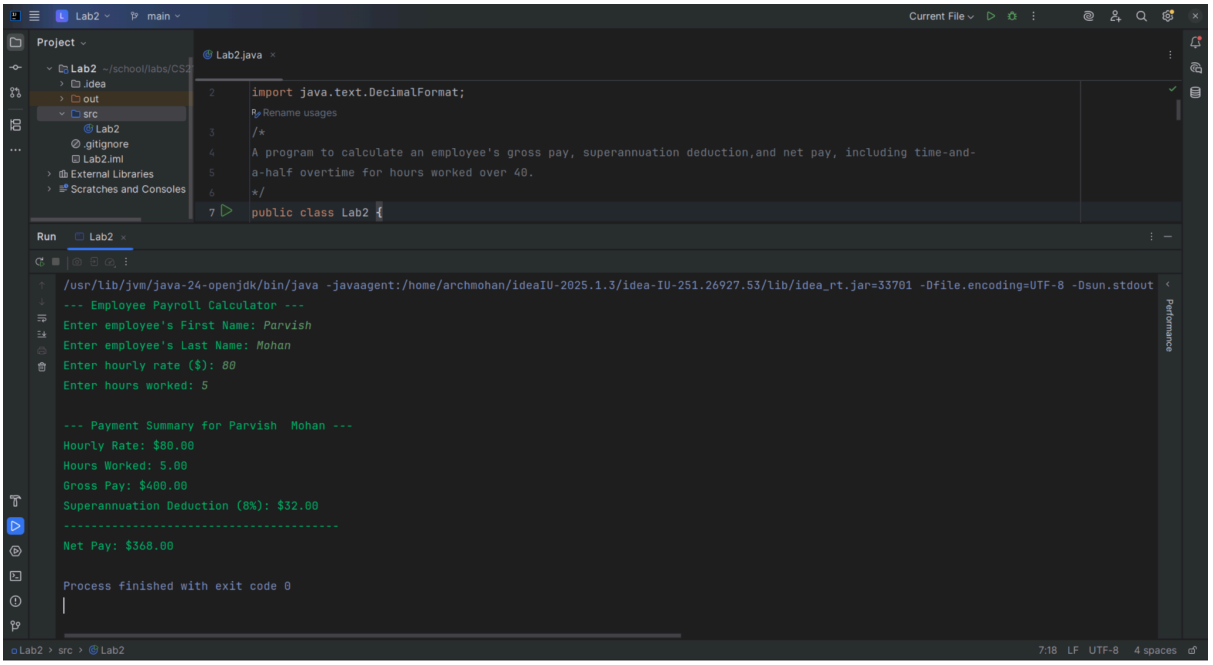
Task 1:

With an IDE



Using the terminal:

```
[archmohan@x13Flow CS218]$ cd Lab
Lab1_CS218/ Lab2/
[archmohan@x13Flow CS218]$ cd Lab2
[archmohan@x13Flow Lab2]$ ls
Lab2.iml  out  src
[archmohan@x13Flow Lab2]$ cd src
[archmohan@x13Flow src]$ javac Lab2.java
[archmohan@x13Flow src]$ java Lab2
--- Employee Payroll Calculator ---
Enter employee's First Name: Parvish
Enter employee's Last Name: Mohan
Enter hourly rate ($): 40
Enter hours worked: 5

--- Payment Summary for Parvish  Mohan ---
Hourly Rate: $40.00
Hours Worked: 5.00
Gross Pay: $200.00
Superannuation Deduction (8%): $16.00
----------------------------------------
Net Pay: $184.00
[archmohan@x13Flow src]$
```

Task 2: Concepts & Logic

1. Input analysis
   Enter First and Last Name - Gets the users information
   Enter hourly rate - Gets the hourly rate of the employee
   Enter hours worked - Gets the hours worked by the employee

2. Logic Explanation
   The program has a condition which checks the entered hours if it has exceeded the given threshold of 40 hours, then it calculates overtime pay when it exceeds 40, else calculates the normal gross pay.

   Then, superannuation is calculated by multiplying the gross pay with the given rate of 8%.

3. Output Formatting
   DecimalFormat - convert values into two decimal places.
   Scenario 1 -

```
/usr/lib/jvm/java-24-openjdk/bin/java -javaagent:
--- Employee Payroll Calculator ---
Enter employee's First Name: Parvish
Enter employee's Last Name: Mohan
Enter hourly rate ($): 20
Enter hours worked: 38

--- Payment Summary for Parvish Mohan  ---
Hourly Rate: $20.00
Hours Worked: 38.00
Gross Pay: $760.00
Superannuation Deduction (8%): $60.80
----------------------------------------
Net Pay: $699.20
```

   Scenario 2 -

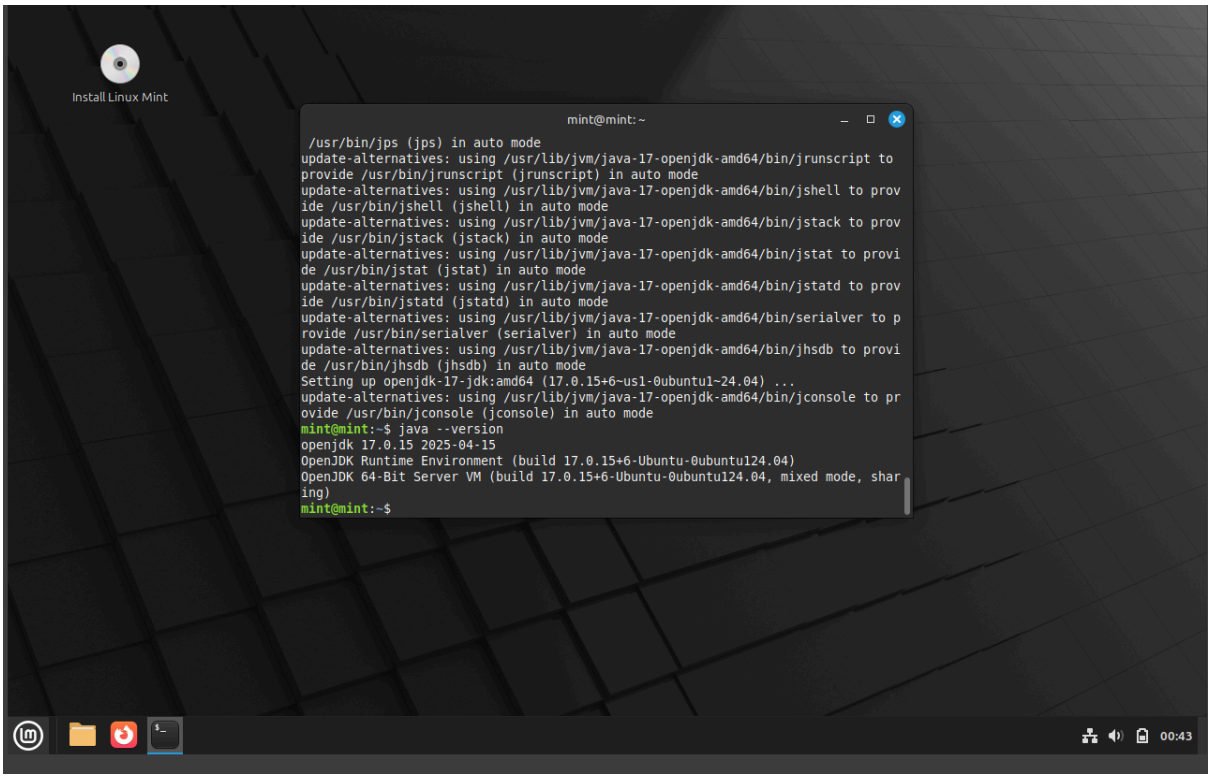
```
--- Payment Summary for Parvish Mohan  ---
Hourly Rate: $20.00
Hours Worked: 42.00
Gross Pay: $860.00
Overtime Pay: $60.00
Superannuation Deduction (8%): $68.80
----------------------------------------
Net Pay: $791.20
```

Code Modification:

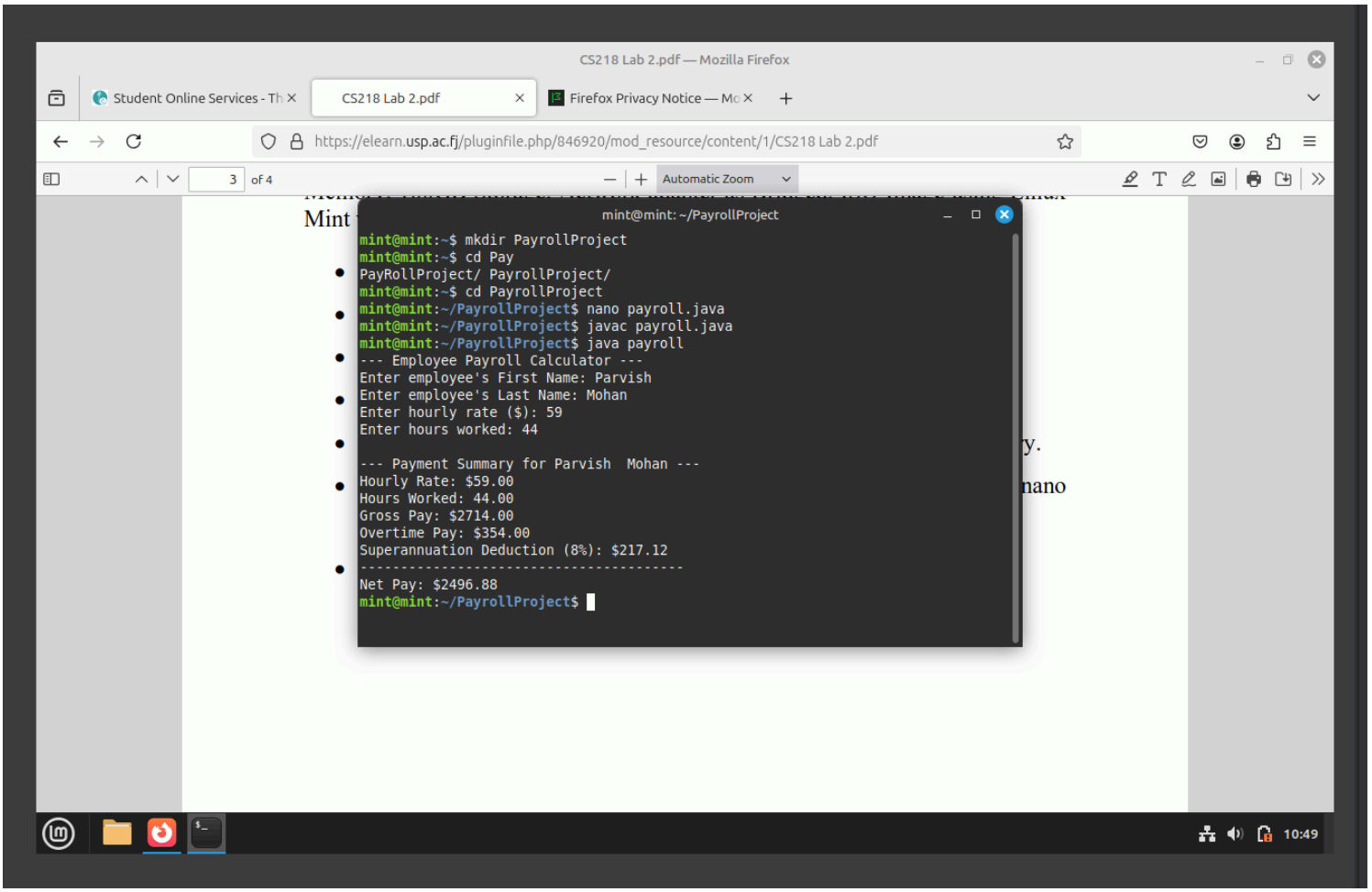
```
//tax deduction after gross pay
final double TAX_RATE = 0.05;
double tax = grossPay * TAX_RATE;
System.out.println("Tax Deduction (8%): " +
df.format(tax));
```

Section B: Virtualization

Running Linux Mint:

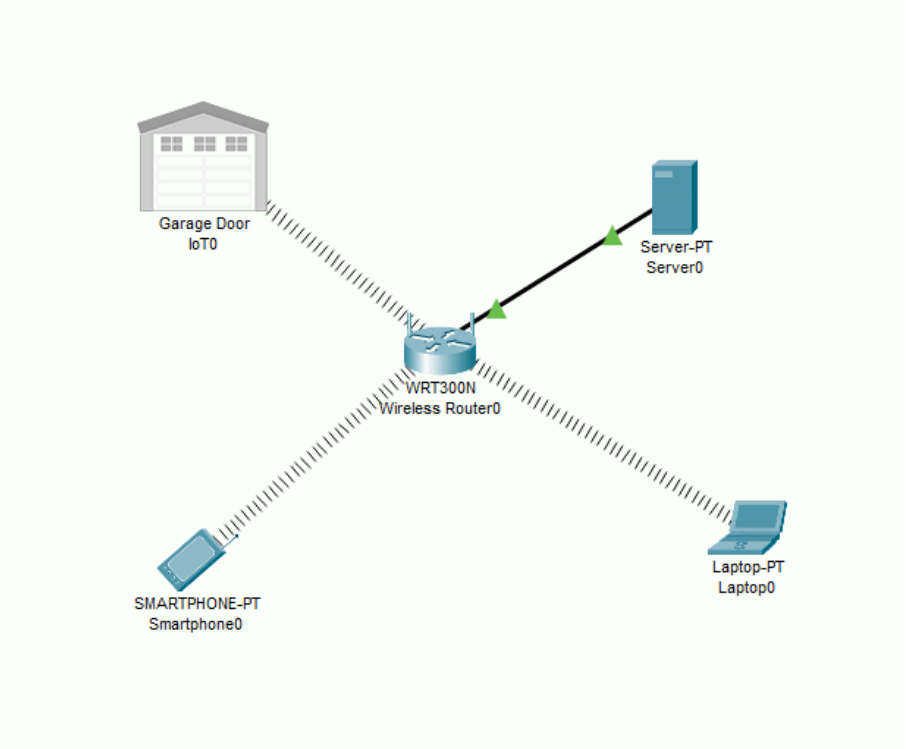


Creating a PayrollProject folder with the first exercise compiled on the linux terminal:



Section C: Wireless Configuration

Setup Configuration:



Final: Running the server on the smartphone using a web browser: