**Title Page:** Create a title page with "Introduction to Software Engineering", "Assignment 3", your Name and date of completion.
**Note**: You can draw the diagrams with any drawing program or draw it by hand.

**Task 1:**

**Instruction:** Create an activity diagram for the scenario below. Remember to use partitions (mandatory).

**Scenario: "Automated Temperature Screening System"**
The Pear Corp**.** has introduced a policy requiring daily temperature checks for all employees before entering the workplace to ensure workplace safety during the flu season. The company board has decided to automate this process using a robotic system with the name **"**TempGuard**"**. The TempGuard robot is responsible for carrying out an automated temperature screening process. The following description is provided by a healthcare specialist: The screening process begins when the employee presses start button.TempGuard first displays a privacy agreement, which the employee must read and accept. Once the privacy agreement is accepted, TempGuard asks the employee to input their employee ID number. The employee inputs their ID and waits for the robot for confirmation, which may take 1 minute. The robot confirms the identity by checking the employee database. TempGuard then starts the temperature check by scanning the employee's forehead using a no-contact infrared thermometer. If the temperature is within the normal range (below 37.5°C), TempGuard logs the result and notifies the employee of successful clearance to enter the building. If the temperature exceeds the threshold (37.5°C or higher), the employee is asked to wait for a second scan after a brief pause. If the second scan confirms a high temperature, TempGuard sends a notification to HR and at the same time advises the employee to leave the premises and consult a doctor. In case the temperature scan fails or is invalid, the employee is notified to try again, and TempGuard logs the failure. TempGuard ensures that all data, including the employee’s ID and temperature results, are securely stored in the system database for future reference.

**Bonus Task:**
Model an additional feature where TempGuard can detect potential mask violations and notify the employee if their mask is not worn correctly. Note that the mask and temperature have to be checked simultaneously

**Task 2**

**Instructions**: Draw a sequence diagram for the process of an ATM transaction. The sequence diagram should illustrate how a user interacts with an ATM machine from start to finish.

**Scenario**: A user begins the process by inserting their card into the ATM. The machine verifies the card and prompts the user to enter their PIN. After entering the correct PIN, the user is presented with three options:

Check Balance – The machine will display the user's current account balance.

Withdraw Money – If selected, the user can choose an amount to withdraw. The machine will check whether the user has sufficient funds. If the balance is insufficient, the machine will display an "Insufficient Balance" message. If the balance is sufficient, the machine will dispense the requested amount, and the user can collect the cash.

Cancel Transaction – If selected, the transaction will be cancelled. The message "Transaction Cancelled" is displayed.

After completing any of the options, the machine will ask the user if they would like a receipt. Finally, the user retrieves their card, and the machine displays a "Thank you" message.