UML Exercises 2

1. Suppose you're designing a toaster. Create a state diagram that tracks the states of bread in the toaster. Include necessary triggering events. Actions, and guard conditions. (5 points)

2. Create a sequence diagram for an electric pencil sharpener. Include as objects the user, the pencil, the insertion point (that is, the place where you put the pencil into the sharpener), the motor, and the sharpening element. (5 points)

3. Create an activity diagram that shows the process you go through when you start your car. Begin with putting the key in the ignition, end with the engine running, and consider the activities you perform if the engine doesn't start immediately. (5 points)

4. Consider your home computer system to be a set of nodes. Draw a deployment diagram that includes your CPU box and peripherals. Include artifacts. (5 points)

5. Create a sequence and activity diagram for the following collaboration. (10 points)

> A customer wants to draw money from his bank account. He enters his card into an ATM (automated teller machine). The ATM machine prompts "Enter PIN".
> The customer enters his PIN. The ATM (internally) retrieves the bank account number from the card. The ATM encrypts the PIN and the account number and sends it over to the bank.
> The bank verifies the encrypted Account and PIN number. If the PIN number is correct, the ATM displays "Enter amount", draws money from the bank account and pays out the amount.

1.   triggering   .
2.   sequence diagram
3.   activity   .
4. PC   ,   deployment

5. ATM   sequence, activity

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