A client has just handed you the following use cases for a bank machine:

- Scenrio 1: withdrawal
  a. User walks up to bank machine.
  b. User inserts bank card.
  c. Machine asks for PIN.
  d. User types PIN.
  e. Machine checks PIN.
  f. Machine reports that PIN is correct.
  g. User pushes "Fast cash" button.
  h. Machine asks how much.
  i. User selects an amount.
  j. Machine checks that amount is a multiple of $20.
  k. Machine gives user money.
  l. Machine returns card.

- Scenrio 2: invalid amount.
  1. User inserts bank card.
  2. Machine asks for PIN.
  3. User types PIN.
  4. Machine checks PIN.
  5. Machine reports that PIN is correct.
  6. User pushes "Fast cash" button.
  8. User selects an amount.
  9. Machine checks that amount is a multiple of $20.
 10. Machine finds that amount is not acceptable.
13. Machine checks that amount is a multiple of $20.

• Scenerio 3: cancelled transaction
  1. User inserts bank card.
  2. Machine asks for PIN.
  3. User types PIN.
  4. Machine checks PIN.
  5. Machine reports that PIN is correct.
  6. User pushes "Fast cash" button.
  8. User selects an amount.
  9. Machine checks that amount is a multiple of $20.
10. Machine finds that amount is not acceptable.
12. User presses cancel.
14.

• Scenrio 4: failed PIN.
  a. User walks up to machine.
  b. User inserts bank card.
  c. Machine asks for PIN.
  d. User types PIN.
  e. Machine checks PIN.
  f. Machine reports that PIN is incorrect.
  g. Machine returns card.

Based upon these use cases only,
1. Draw a flow chart that unifies all four use cases into a single diagram. Show decision points as diamonds.

2. Draw a Jackson activity diagram that depicts the unification of all four use cases. In this case, use conditional boxes to indicate branches.
3. Draw a state diagram for the ATM based upon the same use cases.

There are many solutions. This is one.