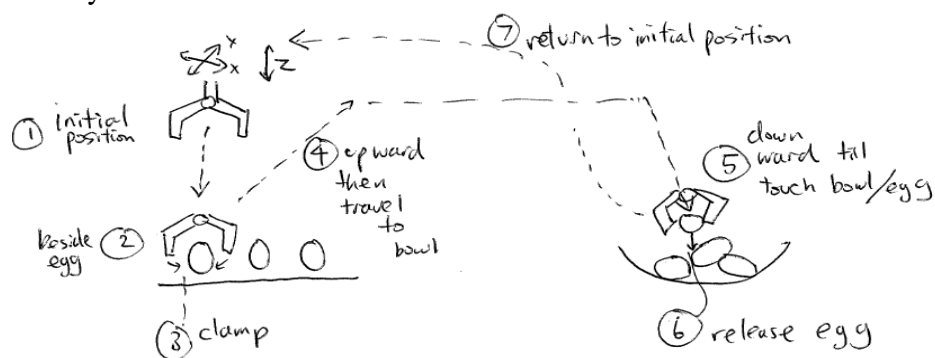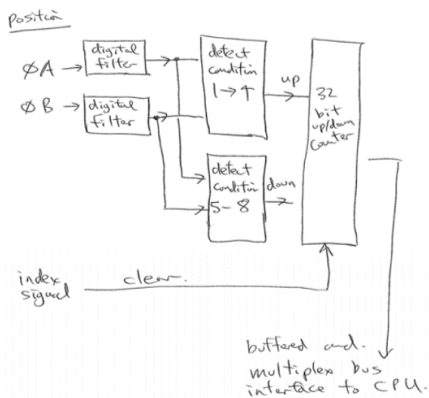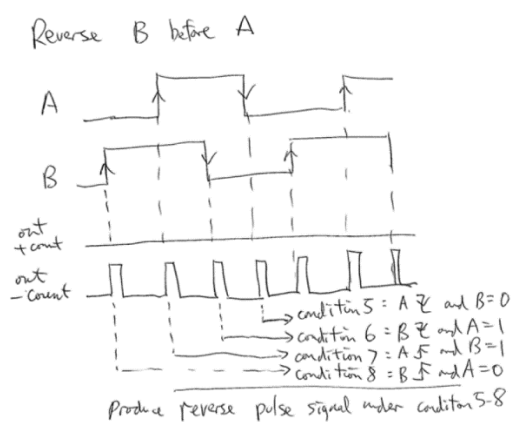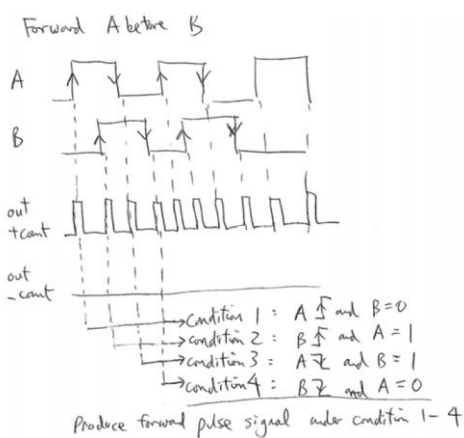## Question 1

Define one motion cycle:
a. Start, position 1
b. trajectory motion X,Y and Z to position 2
c. clamp motion (trajectory path > slow speed search > touch object > clamp force)
d. trajectory motion (Z axis: trajectory path, X&Y: trajectory path)
e. clamp with egg position directly on top of bowl, position 5
f. Downwards Z axis (trajectory > slow speed search > touch object > release clamp)
g. Return to initial position (X, Y, Z: trajectory path mode)
h. Finish one cycle

Question 2

Question 3

DC Motor: brush wear out, which causes change in control behaviour. BLDC: No brush

DC Motor: brush limits the max current delivered to motor
BLDC: No brush

DC Motor: Coil inside case, heat dissipation problem
BLDC: Coil is outside the case, no heating problem

Question 4

Stepping motor experience resonance at low speed (see graph).
At that region, the torque is small, sometimes virtually zero.
Drawing large circle at low speed will come across that region.
Therefore it may experience missing step at this region.