Pseudo Code for HANGMAN

[default. (game is reset)]
button is turned off, servo(1) is pointing 0 degree, servo(2) is pointing 45 degree.

[Arduino choose a word from its word bank]
word bank / 10 words :
apple, fuzzy, juice, pizza, pecan, robot, daisy, bunny, silly, servo
string statement

[player choose a letter : turns the potentiometer and press the button]
Arduino reads the potentiometer value (analog in)   ex: A is between 100~150
when the current flows by pressing the button.
Arduino judges if the value matches the information in the string

[If the result is **right**, servo(1) indicates the position of the letter]
- if the analog in value (potentiometer value) matches an alphabet included in the string,
 servo(1) goes to the position.
- if the analog in value matches two alphabets,
 servo(1) goes back and forth the two positions.
ex: for instance, starting point : 0 degree -> 45,60,75,90,105
"servo" if the letter is 'e', servo goes to the second position, which is 60 degree
"pizza" if the letter is 'z', servo goes back and forth the third and forth position, which is from 75-90 degree.
question: *how do I read the position data and code it to servo*

servo keeps pointing the direction, or go back and forth two directions, until player presses the button again to match a different letter.

[player turns the alphabet dial to the right position : non electronic, only for the game]

[if the result is **wrong**, servo(2) spins 45 degree clockwise]
if the "analog in" data doesn't match any of the letter in the string,
servo(2) spins clockwise 22.5 degree (8/180)

[repeat]

[if the player matches all the letters, servo(2) spin anti clockwise 45 degree to celebrate]
question: *how does the game know player won? is it something like, if servo(1) moves 5 times, you win? but in that case the servo sometimes move back and forth if the word has multiple counts of alphabet*

[if the player make 6 mistakes, the game is over]
servo(2) turned clockwise 22.5 * 6 degree to its last phase

[reset button]
Game starts over again, press to start over the game. (also possible in the middle of the game)

1 potentiometer (alphabet chooser) / 2 servos (alphabet position indicator, life phase indicator)
1 arduino + 1 arduino shield / 2 buttons (reset button, choose button)

laser cut parts, fabricate part :
5 wooden dials with of alphabet printed on the side (hole drilled on the center)
 (this part is nothing to do with codes, totally analogue, made by laser cut and lettering maybe)
1 dowel (dials spins around the dowel like a skewer)
1 thick half dial indicating the life status (8 phased)
cover of whole structure
2 needles (1 for potentiometer, 1 for servo)

potentiometer (attached with a needle indicator)

27 phased gear (with alphabets)
player turns the dials to the right place,

side view

servo (1) : indicating the position of the letter
(each servo attached with a needle)

step 0 ~ 7

servo (2) : attached with gear showing life status

side view

step 2   step 1   step 0

it has 7 phases, if player makes false answer it spins to the next phase