Regular Expressions Handout

Name _____

Assume that the valid set of characters (i.e., the alphabet) is {0, 1, 2}. Describe the languages produced by the following regular expressions.

(0)*(1)*(2)*	***Language that contains 0's followed by 1's followed by 2's. There may be 0 or more of each valid character.***
(012)*012	***Language that contains strings which always start with 012 and then followed by 0 or more multiples of the substring 012.***
0	***Language contains 0.***
(0U2)(0U2)	***Language is exactly {00, 02, 20, 22}***
((0U1U2)(0U1U2))*	***The language is any string that has even characters.***

For each description, provide a regular language that evaluates to the language described.

Any string that starts with a 0.	
A language that contains {00, 01, 001}	
A language in which all strings start with a 0 and end with 1 and are no more than 3 characters in length.	
A language that accepts everything.	
A language that only accepts an empty string.	

Construct a FSM that will accept the language generated by each regular expression.

(0) U (01) U (001)	
012(012)*	
0	
(0U2)(0U2)	