REs & DFAs WORKSHEET
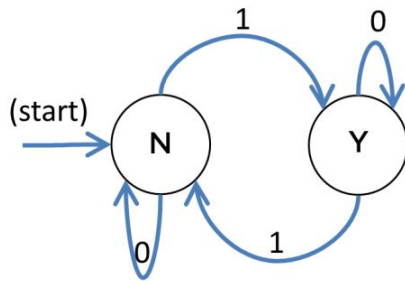
1. Consider the regular expression ((C|D|M|N|P|T)A)*

    a. Is PAPA matched by this RE? Is MAMAN? Is NAPA? Is TAMPA?

    b. Name two countries that are matched by this RE.

2. RElay Race - Write regular expressions for the following languages:

    a. all binary strings

    b. all non-empty binary strings

    c. all binary strings beginning and ending with 1

    d. all binary strings ending with 00 (divisible by 4)

    e. all binary strings with at least three 1s

3. Given an English-language description of the language defined by the RE (0*10*10*)*?

4. BONUS: is it possible to define a RE for all binary integers divisible by 3?

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5. Consider this DFA:

   a. Is 01101 accepted by this DFA?

   b. Is 11?

   c. Given an English-language description of the language that this DFA recognizes.

   d. (Optional) Give a regular expression that defines the same language

6. Draw DFAs that recognize each of these languages from Question 2:

   a. all binary strings

   b. all non-empty binary strings

   c. all binary strings beginning and ending with 1

   d. all binary strings ending with 00 (divisible by 4)

   e. all binary strings with at least three 1s