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COP-2270 - C for Engineering
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Program cop2270pgm2f

Make sure your program is properly documented and aligned uniformally, looking professionally,
I will take points off if it not.


Purpose: Implement functions, if, else if, else, for, printf,
         primitive types, String class with several functions, single dimension array.


1 - In main() (Worth 2 points)
      - Create the following variables:
            int i = 7;
            int j = 9;
            double x = 72.5;
            double y = -0.34;

      - Passing the previous variables, call the following functions:
            processAbsoluteValues
            processRoundValues
            processCeilingValues
            processFlooringValues
            processMinimunValues
            processMaximunValues
            processTrigFunctionsValues (cos, sin, tan)
            processExponentialValues
            processLogValues
            processPowerValues
            processSquareRootsValues
            processRandomValues

      - Create a single dimension array containing ONE index,
        which will have ONE string with your full name as follows:

            "first name $ middle name % last name and ONE space"
            i.e. "George & Washington % Rodriguez "
            Note: if you do not have a middle name use MN.


2 - (Worth 2 points) Create the previous functions, and in their corresponding functions,
      using the data received implement the following Math functions:
            abs, round, ceil, floor, min, max, cos, sin, tan, exp, log, pow, sqr, random


3 - Create a method called myName (Worth 2 points).
      Using the for loop, if, else if, else, ||, &&, printf, and any other
      command you want that we have learned in class,
      - Examine each character of your name and determine if it is:
        - a space, a vowel (a,e,i,o,u,A,E,I,O,U), a consonant (b,w,g, etc), the symbol %
          or the symbol $, and using the current value of x in your for loop print:

            character [x] located at position x is a consonant    or
            character [x] located at position x is a vowel         or
            character [x] located at position x is a space         or
            character [x] located at position x is a symbol

            ie: My name is [George $ Washington % Rodriguez]

            character [G] located at position 0 is a consonant
            character [e] located at position 1 is a vowel
            character [o] located at position 2 is a vowel
            character [r] located at position 3 is a consonant
            character [g] located at position 4 is a consonant
            character [e] located at position 5 is a vowel
            character [ ] located at position 6 is a space
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        character [$] located at position 7 is a symbol
        character [ ] located at position 8 is a space
        character [W] located at position 9 is a consonant
        character [a] located at position 10 is a vowel
        character [s] located at position 11 is a consonant
        character [h] located at position 12 is a consonant
        character [i] located at position 13 is a vowel
        character [n] located at position 14 is a consonant
        character [g] located at position 15 is a consonant
        character [t] located at position 16 is a consonant
        character [o] located at position 17 is a vowel
        character [n] located at position 18 is a consonant
        character [ ] located at position 19 is a space
        character [%] located at position 20 is a symbol
        character [ ] located at position 21 is a space
        character [R] located at position 22 is a consonant
        character [o] located at position 23 is a vowel
        character [d] located at position 24 is a consonant
        character [r] located at position 25 is a consonant
        character [i] located at position 26 is a vowel
        character [g] located at position 27 is a consonant
        character [u] located at position 28 is a vowel
        character [e] located at position 29 is a vowel
        character [z] located at position 30 is a consonant
        character [ ] located at position 31 is a space
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4 - Create a method called pyramid (Worth 2 points).
    Using a for loop, display to the screen, the string containing your name so that each
    loop will NOT contain the first and the last character from the previous line,
    with the length of the string being printed, and the string surrounded by square brackes []

    NOTE: Every method dealing with your name, MUST be called from main, PASSING your name to it.

    i.e:  32 [George $ Washington % Rodriguez ]
          30 [eorge $ Washington % Rodriguez]
          28 [orge $ Washington % Rodrigue]
          26 [rge $ Washington % Rodrigu]
          24 [ge $ Washington % Rodrig]
          22 [e $ Washington % Rodri]
          20 [ $ Washington % Rodr]
          18 [$ Washington % Rod]
          16 [ Washington % Ro]
          14 [Washington % R]
          12 [ashington % ]
          10 [shington %]
           8 [hington ]
           6 [ington]
           4 [ngto]
           2 [gt]
           0 []

5 - In a method called parsing do the following:

    NOTE: Every method dealing with your name, MUST be called from main, PASSING your name to it.

    - Print your name in upper case letters.
    - Print your name in lower case letters.
    - Print your name taking all spaces out.
    - Print your name with all vowels in upper case, and all consonants in lower case.
    - Print your name backwards.
    - Print your name in ASCII values.


Turn in the source code on paper, and email me the source code.
Make sure the program is properly documented and aligned uniformally, looking professionally.