1. Determine the value of I that will be displayed if the following MATLAB command is executed. The definition of the user function build_array is provided in the box shown.

```matlab
function A = build_array(n)
    A = zeros(n); 
    for r = 1:n
        for c = 1:n 
            if r == c
                A(r,c) = 1; 
            end 
        end 
    end 
end
```

`>> I = build_array(5)`

2. Determine the output generated by Matlab if the following commands are executed:

```matlab
% ENGR-111 HW#10 Part II
my_school = 'Marshall University';
size(my_school)
length(my_school)
my_school = upper(my_school)
fliplr(lower(my_school))
```
3. A 1×n array named A has a set of values to be processed. The flowchart shows the logic to be used in processing the array.

(a) In your own words, describe what the following variables contain after the logic is executed.

sume  sumo  cnte  cnto  ave  avo

(b) Write a MATLAB script that implements the logic shown in the flowchart.

Hint: Note that if N is an integer then \( \text{mod}(N, 2) = \begin{cases} 0 & \text{N even} \\ 1 & \text{N odd} \end{cases} \)