Name: Nick McCullough

AERE 161, Spring 2022 HW # 3 Due date: 2/11/2022

Problem Pr1.

- - - -(insert your solution here)

```
clear,clc
% Nick McCullough, HW3, Problem Pr1
% Rewrite this for loop into a while loop


S = 0; % assign S variable to 0
while i <= 10; % while loop with i less than or equal to 10
   S = S + i; % same equation as for loop
end
```

Problem 5.4.

- - - -(insert your solution here)

When would it matter if a for loop contained for i = 1:3 vs. for i = [3 5 6], and when would it not matter?

It would matter if you are defining integers between 1 to 3 for the first one and the second is obviously 3 5 6 integers, so it depends on what you are coding for. The second variable is not "in order", it is random. It wouldn't matter if you are just looking for random single digit integers, both variables for i would work in this scenario. Both variables iterate three outputs. It all depends if the value of i and if it matters or not depending on what you are looking for.

Problem 5.8

- - - -(insert your solution here)

```
clear,clc
% Nick McCullough, Aere 161, HW 3, Problem 5.8
% Write a script that will generate a random integer between 2-5
% it will also loop that many times
% it will prompt the user to enter a number
% it will print the sum of the numbers so far with one decimal place


% zero = 0; % set initial variable x to 0
```

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```
x = randi([2,5],1,1); % create variable y to generate a random integer 2-5
sum = 0; % setting sum variable to 0 because we will add later
for i=1:x % create the range between 2-5, loop value is x
    y = input('Please enter a number '); % create variable with input for user
    sum = sum + y; % create variable to add x + y
end % end for loop
fprintf('sum is equal to = %d.0', sum); % prints sum integers with one decimal place
```

Output 1:

------(insert output (your results) here)
Please enter a number 4
Please enter a number 3
Please enter a number 3
Please enter a number 4
Please enter a number 4
sum is equal to = 18.0>>

Problem 5.27

```
clear,clc
% Nick McCullough, Aere 161, HW 3, Problem 5.27
% % Write a script called prtemps that will prompt the user for a maximum Celsius value
% in the range from -16 to 20; error-check to make sure it's in that range. Then, print a
% table showing degrees Fahrenheit and degrees Celsius until this maximum is
% reached. The first value that exceeds the maximum should not be printed. The table
% should start at O degrees Fahrenheit, and increment by 5 degrees Fahrenheit until
% the max (in Celsius) is reached. Both temperatures should be printed with a field
% width of 6 and one decimal place. The formula is C = 5/9 (F - 32).

Celsius = 0; % create a value 0 for celsius
while  16 > Celsius || Celsius > 20 % while statement for the range of celsius
    Celsius == input('Please enter the temp in C from -16 to 20: ') % this asks user for current temp
in celsius
```

```
end

Fahrenheit = 0; % create value 0 for Fahrenheit
fprintf('%6s %6s\n',Celsius, Fahrenheit) % prints Celsius and Fahrenheit
x = 5/9 * (Fahrenheit - 32) % create variable for conversion formula C to F
if x > Celsius % create while statement for conversion compared to Celsius
else
   fprinf('%6.1f %6.1f\n',Fahrenheit, x) % field width 6 and a single decimal place
   Fahrenheit = Fahrenheit + 5 % adds 5 to Fahrenheit value
end
```

- - - -(insert your solution here)

Output 1:

------*(insert output (your results) here)*

Please enter the temp in C from -16 to 20: 5

ans =

logical

0

Please enter the temp in C from -16 to 20:

(I couldn't get the code to work correctly, it kept looping, not sure what I did wrong)

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