## ME 318M Homework #4

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Section Number: 17460

#### **Problem 1:**

```
1 -
 2
 3 -
        Fibonacci(1) = input('Enter the first Fibonacci number: ');
 4 -
        Fibonacci(2) = input('Enter the second Fibonacci number: ');
 5 -
        Limit = input('What number should this program stop at? ');
        NumberAtIndex = 0;
 6 -
 7 -
        index = 3;
 8
 9
       %while NumberAtIndex < Limit
10
               %disp(index)
                Fibonacci(index) = Fibonacci(index-1) + Fibonacci(index-2);
11
12
                NumberAtIndex = Fibonacci(index)
13
                index = index + 1
14
                pause
15
       %end
16
17 -
     18 -
           Fibonacci(index) = Fibonacci(index-1) + Fibonacci(index-2);
19 -
               if Fibonacci(index) > Limit
20 -
                   break
21 -
               end
22 -
      end
23
       Fibonacci(1:index-1)
24 -
>> Homework4Problem1
Enter the first Fibonacci number: 0
Enter the second Fibonacci number: 1
What number should this program stop at? 10
                                                                    Workspace
                                                                                                (\pi)
Warning: Too many FOR loop iterations. Stopping
after 9223372036854775806 iterations.
                                                                    Name A
                                                                                    Value
> In Homework4Problem1 (line 17)
                                                                    ans
                                                                                    [1,2,3,5,8,13,21]
                                                                    🛨 Fibonacci
                                                                                   [1,2,3,5,8,13,21,34]
                                                                    index
ans =
                                                                    🛗 Limit
                                                                                   25
                                                                    NumberAtInd... 0
                 1
                      2
>> Homework4Problem1
Enter the first Fibonacci number: 1
Enter the second Fibonacci number: 2
What number should this program stop at? 25
Warning: Too many FOR loop iterations. Stopping
after 9223372036854775806 iterations.
> In Homework4Problem1 (line 17)
ans =
              3 5
                                13
```

### **Problem 2:**

```
clear
Start = false;
while Start == false
    UserInput = input('How many integer numbers do you want in your array?
');
    if UserInput == floor(UserInput)
       Start = true;
    else
        disp('Hey that is not an integer - try again!')
    end
end
for i = 1:UserInput
    NewNumber = input(['What number do you want at index ', num2str(i), '?
']);
    PlaceNumber = false;
    while PlaceNumber == false
        if NewNumber == floor(NewNumber)
            PlaceNumber = true;
        else
            disp('Hey that is not an integer - try again!')
        end
    end
    UserArray(i) = NewNumber;
    disp([num2str(UserArray(i)), ' is at index ', num2str(i), '. '])
end
UserArray
length = length(UserArray);
eveni = 1;
oddi = 1;
for i = 1:length
    if mod(UserArray(i), 2) == 0
        %for eveni = 1:length
        EvenArray(eveni) = UserArray(i);
        eveni = eveni + 1;
        %end
    else
        %for oddi = 1:length
        OddArray(oddi) = UserArray(i);
        oddi = oddi + 1;
        %end
    end
end
EvenArray
OddArray
```

#### >> Homework4Problem2

How many integer numbers do you want in your array?

What number do you want at index 1? 3

3 is at index 1.

What number do you want at index 2? 2

2 is at index 2.

What number do you want at index 3? 0

0 is at index 3.

What number do you want at index 4? 43

43 is at index 4.

What number do you want at index 5? 205

205 is at index 5.

UserArray =

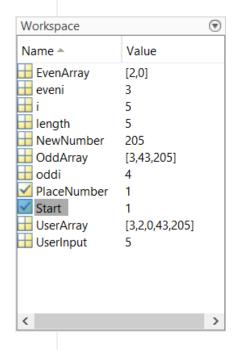
3 2 0 43 205

EvenArray =

2 0

OddArray =

3 43 205



# **Problem 3:**

M3 =

| 55 | 72  | 31 |
|----|-----|----|
| 76 | 101 | 39 |
| 27 | 39  | 34 |

>> det(M3)

ans =

2.3300e+03

