

Northern Michigan University (Marquette Co, MI)

CS202-02-25F: Python (Andrew A. Poe)
Practice Final Examination (Exam 2) Page 1/3

Name: _____
Sunday 7 December 2025 7:00 P.M. EST

Time: 110 minutes.

1. Write the following Python function:

```
def InOrder (word1,word2,word3)
```

word1, word2, and word3 are all string. You should return True if the words are in alphabetical order OR in reverse alphabetical order, and False otherwise. Adjacent identical words are considered to be BOTH in forward and reverse alphabetical order. For example, if the words were "I" "ATE" "TACOS", the function would return False as these words are in neither forward nor reverse order.

```
def InOrder (word1,word2,word3) :  
    return word1 <= word2 and word2 <= word3 or word1 >= word2 and word2 >=  
word3
```

2 Write the following Python function:

```
def ThreeDigits (n)
```

n is a list of nonnegative integers. Your method should return the number of integers in the list containing exactly three digits, meaning that they fall inclusively between 100 and 999. For example, if n were [4,119,1028,295,4], the method should return 2.

```
def ThreeDigits (n) :  
    ct = 0  
    for i in n :  
        if n >= 100 and n <= 999 :  
            ct += 1  
    return ct
```

3. Write the following method in Python:

```
def PrintPattern (n) :
```

which prints the numeric pattern as demonstrated below.

```
n=1  
1 1
```

```
n=2  
1 1  
1 2  
2 2
```

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```
n=3
1 1
1 2
1 3
2 2
2 3
3 3
```

```
def PrintPattern (n) :
    for i in range (1,n+1) :
        for j in range (i, n+1) :
            print (i,j)
```

4. Write the following method:

```
def MoreEvensThanOdds (n) :
```

Interpreting n specifically as a list of list of integers, this method should return True if there is a row with more even integers than odd integers, and False if there is no such row.

For example, if n were

3	2	1	4
2	5	8	6
1	1	2	1

would return True since the middle row has three even integers and one odd integer. (The other two rows do not qualify. The bottom row has more odds, and the top row has an equal number of evens and odds.)

```
def MoreEvensThanOdds (n) :
    for row in n :
        oct = 0
        ect = 0
        for i in row :
            if i%2==0 :
                ect += 1
            else :
                oct += 1
        if ect > oct :
            return True
    return False
```

5. Write Python code that chooses a random point in the drawing window and draws a circle at that location.

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```
rows = screensize()[1]
cols = screensize()[0]
r = random()*rows-rows/2
c = random()*cols-cols/2
up()
goto (r,c)
down()
circle(50)
mainloop()
```

6. Write Python code that does the following:

Open a file "endterm.in" for reading and a file "endterm.out" for writing. endterm.out should be a copy of endterm.in, EXCEPT that endterm.out should contain no vowels, upper or lowercase. (For the purposes of this problem, y and w are not vowels.)

For example, if the input file contained,

This morning, for breakfast,
I had two bowls of granola.

The output file would contain

Ths mrnng, fr brkfst,
hd tw bwls f grnl.

```
infile = open ("endterm.in","r")
outfile = open ("endterm.out","w")
line = infile.readline ()
while (line != "") :
    for c in line :
        if c not in ["A","E","I","O","U","a","e","i","o","u"] :
            outfile.write (c)
    line = infile.readline()
infile.close ()
outfile.close()
```