Northern Michigan University (Marquette Co, MI)

Time: 15 minutes.

1. Write a complete program in Python that will ask the user for three numbers and will then print out whether the three numbers represent a triple, a pair (with an extra), or three singles. For example, 4,4,4 is a triple. 4,5,4 is a pair, and 4,5,6 are three singles. Do not use lists or loops in any way.

```python
a = int (input ("Enter a number:  "))
b = int (input ("Enter a number:  "))
c = int (input ("Enter a number:  "))

if a==b and a==c :
   print ("Triple")
elif a==b or b==c or a==c :
   print ("Pair")
else :
   print ("Three Singles")
```

2. Write the following method in Python:

```python
def HowManyAllCap (n) :
```

This method accepts a list of string and return the number of words in the string that are all capital. A word is only all capital if every single character in the string is a capital letter. If there are spaces or digits or punctuation, etc., in there it is not all cap. For example, ["I","ate","THREE","HUNDRED","Twinkies"] would give an answer of 3. I, THREE, and HUNDRED are all caps. Twinkies is not.

```python
def HowManyAllCap (n) :

   ct = 0
   for s in n :
      lct = 0
      for c in s :
         if c < 'A' or c > 'Z' :
            lct += 1
      if lct == 0 :
         ct += 1
   return ct
```

3. Write the following method in Python:

```python
def ThreeOrMoreEven (n) :
```

This method takes a list of integer and returns True if there are three or more even numbers in the list. It returns False if this is not the case. [4,9,8,5,5] would return False, for example.

```python
def ThreeOrMoreEven (n) :
```

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```
    ct = 0
    for i in n :
        if (i%2==0) :
            ct += 1
    return ct >= 3
```

4. Write the following method in Python:

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

which prints the numeric pattern as demonstrated below:

n=1
1 3

n=2
1 3
2 4
1 3

n=3
1 3
2 4
3 5
1 3
2 4
1 3

n=4
1 3
2 4
3 5
4 6
1 3
2 4
3 5
1 3
2 4
1 3

```
def PrintPattern (n) :

    for i in range (n,0,-1) :
        for j in range (1,i+1) :
            print (j,j+2)
```