CIS 500 – Fundamentals of Software Practice
Weekly Exercise #4

Topics: String, Lists, and Functions

A *run* is a sequence of adjacent repeated values. Write a function named `die_toss_seq_with_runs_marked` that accepts a positive integer input `n` and performs the following actions:

1. Generates a sequence of `n` random die tosses and stores them in a list named `values`. Use the following code to generate a random die toss:

   ```
   import random
   toss = random.randint(1,6)
   ```

2. Constructs a string with values from the list while marking the runs in the sequence by placing them inside parentheses.

3. Return the list of die tosses and the constructed string as its result.

For example, the function call `die_toss_seq_with_runs_makred(20)` might return a string like below, based on a certain random die tosses:

```
"1 2 ( 5 5 ) 3 1 2 4 3 ( 2 2 2 2 ) 3 6 ( 5 5 ) 6 3 1"
```

Use the following pseudocode to construct the string from the "`values`" list. Pay attention to indentation in the **pseudocode** when converting it to Python code.

```
result_str = ""   # no space between quotes
in_run = False
for each index in "values" list
   if in_run and values[i] is different from the preceding value
       append ") " to result_str
       in_run = False
   if not in_run and values[i] is same as the following value
       append "( " to result_str
       in_run = True
    append str(values[i]) + " " to result_str
if in_run
    append ") " to result_str
```

Exercise Instructions:

- Download the file **`WEX-4.py`** from Blackboard.
- Edit the file **`WEX-4.py`** to complete the function `die_toss_seq_with_runs_marked()`.
- Run and test your program to make sure it works correctly.
- Upload the file **`WEX-4.py`** on Blackboard by midnight of due date.