Chapter 5 Dave's Dice Game

Time required: 120 minutes

- Comment each line of code as shown in the tutorials and other code examples.
- Follow all directions carefully and accurately.
- Think of the directions as minimum requirements.

Pseudocode

1. Write pseudocode or TODO for the exercise
2. Submit with the assignment

Requirements

Dave is taking a statistics class at WNCC. His assignment is to simulate the rolling of two dice by randomly generating a 1 through 6. He would like you to write a dice game.

When the user rolls the dice:

- Display two random numbers in the range 1-6.
- Ask the user to play again.

die.py

1. Create a module/program called **die.py**.
2. Create a function named **roll()** that rolls a random die
3. The function returns an integer value.
4. Write a main function to test the module.

```
from random import randint
# TODO: Create a roll() function that rolls a random die (integer) and
returns an integer value
def roll():
    # TODO: Use randint to get a random number between 1-6

    # TODO: Return random integer
```

dice_game.py

1. Create a new program named **dice_game.py**.
2. Import the **die** module.
3. Import and use the **utils.py** module. Print a creative title for the program.
4. When you wish to roll the dice, call the **.roll()** function.
5. Determine and display which die is the highest: the winner.
6. Track the statistics of wins out of rolls.
7. Ask the user if they want to roll again.

```
import die
import utils
# TODO: Create main() function
def main():
    # TODO: Print a nice title using the utils.py module

    # TODO: Create running total variables

    # TODO: While loop with a termination condition of some sort

        # TODO: Roll two random integers with die module roll() function
        player_die = die.roll()
        computer_die = die.roll()

        # TODO: Determine who won or if there was a tie,
        # Accumulate wins for each player

        # TODO: Accumulate number of rounds

        # TODO: Print results of current round

        # TODO: Ask the user if they would like to roll again

# TODO: Call main function
```

Example run:

```
+--------------------------+
|  Time to Roll the DICE!  |
+--------------------------+
Rolling the dice...
The results are:
Player: 3
Computer: 6
Computer wins!
Player won 0 out of 1
Roll them again? (y = yes, Enter to exit): y
Rolling the dice...
The results are:
Player: 4
Computer: 3
Player wins!
Player won 1 out of 2
Roll them again? (y = yes, Enter to exit): y
Rolling the dice...
The results are:
Player: 4
Computer: 2
Player wins!
Player won 2 out of 3
Roll them again? (y = yes, Enter to exit):
Thanks for Playing!
```

Challenge

Look up the time.sleep() Python function to give the game a bit of suspense while the die are rolling. You can randomize the sleep function to randomize how long the dice roll.

```
+--------------------------+
|  Time to Roll the DICE!  |
+--------------------------+
Rolling the dice...
```

Extra Credit

How about some ascii art dice?

To be able to reuse ascii art, create an **ascii_art.py** module. You can keep all your ascii art in one place. To use it, just import it into the program.

```
+--------------------------+
|  Time to Roll the DICE!  |
+--------------------------+
Rolling the dice...
The results are:
Player: 3
+-------+
| o     |
|   o   |
|     o |
+-------+

Computer: 3
+-------+
| o     |
|   o   |
|     o |
+-------+

Tie
Player won 0 out of 1
Roll them again? (y = yes, Enter to exit): y
```

```
Rolling the dice...
The results are:
Player: 5
+-------+
| o   o |
|   o   |
| o   o |
+-------+

Computer: 4
+-------+
| o   o |
|       |
| o   o |
+-------+

Player wins!
Player won 1 out of 2
Roll them again? (y = yes, Enter to exit):
Thanks for Playing!
```

Assignment Submission

1. Attach the pseudocode.
2. Attach the program files.
3. Attach screenshots showing the successful operation of the program.
4. Submit in Blackboard.