

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 for the exercise
2. Save it in a document
3. Submit with the assignment

Requirements

Dave is taking a statistics class at WNCN. 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.

```
from random import randint
# TODO: Create roll() return function that rolls a random die (integer) and
# returns an integer
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: Use the roll function from die to roll two random integers
    player_die = die.roll()
    computer_die = die.roll()

    # TODO: Determine who won or if there was a tie, accumulate wins

    # 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...
Their values are:
Die1: 5
Die2: 1
Die1 wins!
Die1 has won 1 out of 1
Roll them again? (y = yes): y
Rolling the dice...
Their values are:
Die1: 4
Die2: 4
Tie
Die1 has won 1 out of 2
Roll them again? (y = yes): |
```

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?

```
+-----+
|  Time to Roll the DICE!  |
+-----+
Rolling the dice...
Their values are:
Die1: 6
+-----+
| o   o |
| o   o |
| o   o |
+-----+

Die2: 4
+-----+
| o   o |
|     |
| o   o |
+-----+

Die1 wins!
Die1 won 1 out of 1
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.