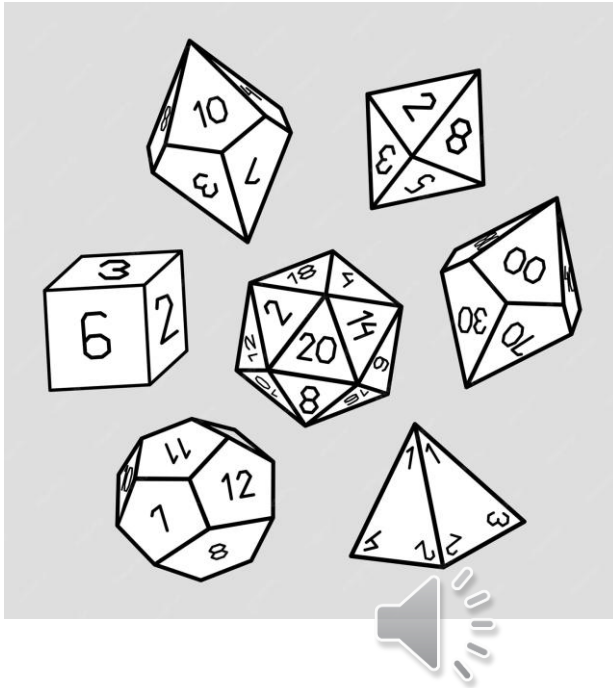
Professional Documentation Presentation

By Andrea Sutton and Ben Gorman

Tabletop RPG Dice Roller

- Tabletop RPG Dice Roller
- Tabletop RPG games are games where players immerse themselves in fantasy worlds to roleplay adventures
- Dice rolling is an essential part to dice rolling games
- Dice include D2, D4, D6, D8, D10, D12, D20, D100
- Players roll dice for different situations in the game



Lunnika. (2023). Premium Vector | Vector set of dice for fantasy board games dnd rpg. [online] Available at: https://www.freepik.com/premium-vector/vector-set-dice-fantasy-board-games-dnd-rpg_37821584.htm [Accessed 6 Dec. 2024].

User Stories

“As a Tabletop Roleplay Gamer, I want a program that can take my specific dice roll criteria and automate the process of rolling a dice, so that I may complete this process without requiring physical dice or having to do the math myself.”

- Free
- Simple
- No personal information required
- No Internet required
- Cheat sheet functionality

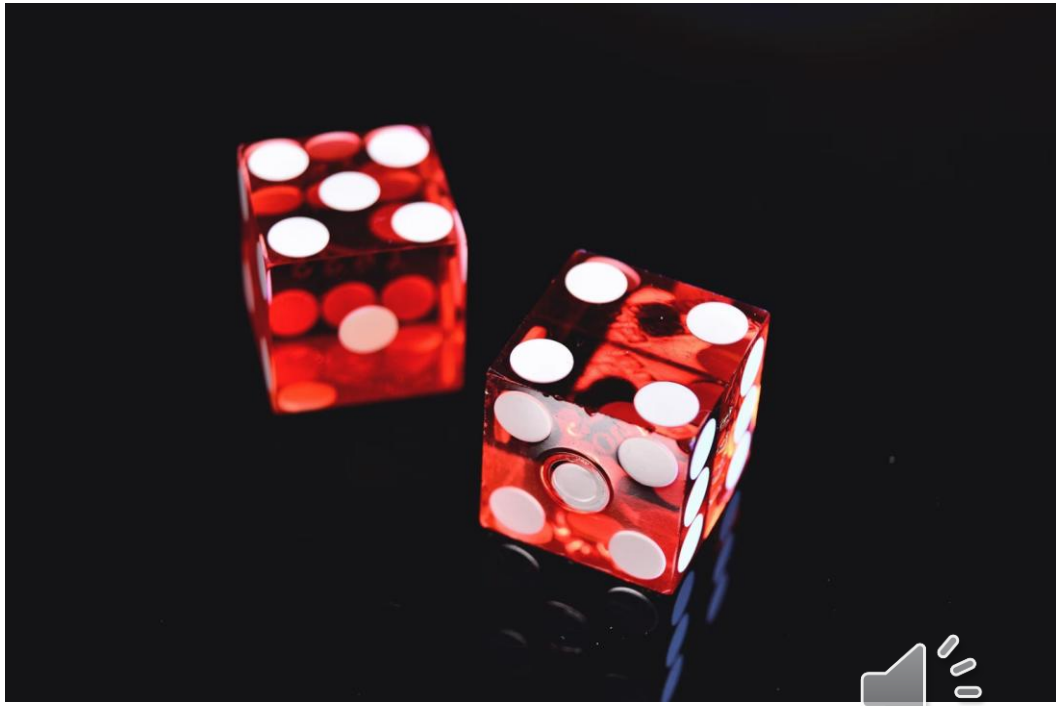


Image provided by Unsplash
https://unsplash.com/photos/two-red-and-white-dices-a6N685qLsHQ

Ethical Concerns

- Privacy Concerns (Privacy Act 1988 & OAIC)
- Open Game Licensing (WOTC)
- Fair Dice Rolling (ACM/IEEE Software Engineering Code of Ethics)

Image provided by Unsplash
https://unsplash.com/photos/green-and-black-dice-on-brown-wooden-table-XIIsv6AshJY

Feedback

- Breaches of Intellectual Property
- Reading Clarity
- Pep8 Guidelines
- Code Notes

Classes

```
class InappropriateInput(Exception):
    pass
```

```
class NegativeError(Exception):
    pass
```

```
try:
    delete = input("Do you wish to delete items? Y/N:")
    if delete.upper() == "Y":
        saved_combinations = {}
        saved_combo(saved_combinations)
        combo = input("enter name of combo you with to delete: ")
        saved_combinations.pop(combo)
        print(f"{Fore.blue}{saved_combinations}{Style.reset}\n")
        save_and_exit(saved_combinations)
        break
    if delete.upper() != "N":
        # The InnapropriateInput class has been imported from clas
        raise InappropriateInput(
            f"{Fore.red}Please enter Y or N{Style.reset}\n"
        )
    break
except InappropriateInput as e:
    print(e)
```

```
if number < 0:
    # NegativeError is a class that has been imported from classes.exceptions
    raise NegativeError(
        f"{Fore.red}dice number cannot be a negative number{Style.reset}\n"
    )
```

```
class Dice:
    def __init__(self, value):
        self.value = value
    def roll(self):
        return random.randint(1, self.value)
```

```
try:
    dice = Dice(int(n[1]))
    number = int(n[0])
```

Classes

```
class NonExistantDice(Exception):
    pass
```

```
valid_dice = ["2", "4", "6", "8", "10", "12", "20", "100"]
```

```
if valid_dice.count(n[1]) == 0:
    raise NonExistantDice(
        f"{Fore.red}This dice does not exist pick a valid dice{Style.reset}\n"
    )
```

```
class NoInput(Exception):
    pass
```

```
try:
    name = input("Enter the name of your dice combo:\n").strip()
    if not name:
        raise NoInput(
            f"{Fore.red}input cannot be left empty please provide a name{Style.reset}\n"
        )
```

Roll Dice Function

The roll dice function does the following:

- Allows users to roll any number of one valid dice
- Gives users the option to view a cheatsheet
- Sums the dice roll if number of dice rolled is >2
- Gives the user the option to roll again

```
def roll_dice():
    valid_dice = ["2", "4", "6", "8", "10", "12", "20", "100"]
    cheatsheet()
    while True:
        n = input(
            f"{Fore.blue}Type the number and type of dice you want eg 2d2, type of dice:d2, d4, d6, d8, d10, d12, d20, and d100:{Style.reset}\n"
        )
        n = n.lower().split("d")
        if len(n) < 2:
            continue
        if len(n) > 2:
            continue
        try:
            dice = Dice(int(n[1]))
            number = int(n[0])
            if number < 0:
                raise NegativeError(
                    f"{Fore.red}dice number cannot be a negative number{Style.reset}\n"
                )
            if valid_dice.count(n[1]) == 0:
                raise NonExistantDice(
                    f"{Fore.red}This dice does not exist pick a valid dice{Style.reset}\n"
                )
            result = []
            for i in range((number)):
                result.append(dice.roll())
            if number > 2:
                print(f"Sum of dice = {Fore.blue}{sum(result)}{Style.reset}\n")
            print(f"{Fore.blue}{(result)}{Style.reset}\n")
            repeat(roll_dice)
            break
        except ValueError:
            print(
                f"{Fore.red}Please input #d# note number input must be >0{Style.reset}\n"
            )
            continue
        except NegativeError as e:
            print(e)
        except NonExistantDice as e:
            print(e)
```

Packages

Random:

- Random is a built in python module
- The random modules function rand.int was essential to the dice roller app
- Uses Pseudo random number generator (PRNG) [1]
- PRNG's Algorithm uses mathematical formulas to generate a sequence of numbers that approximate the properties of random numbers [2]

```
def roll(self):
    return random.randint(1, self.value)
```

```
def roll_two_dice():
    firstd20 = random.randint(1, 20)
    secondd20 = random.randint(1, 20)
```

1: Python (n.d.). random — Generate pseudo-random numbers — Python 3.8.2 documentation. [online] docs.python.org. Available at: https://docs.python.org/3/library/random.html.

2: Singla, Y. (2017). Pseudo Random Number Generator (PRNG) - GeeksforGeeks. [online] GeeksforGeeks. Available at: https://www.geeksforgeeks.org/pseudo-random-number-generator-prng/.