Metadata

Title: Final Project Report

Class: DS 5100

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This URL:

GitHub Repo URL: https://github.com/Liu-Maria/DS5100-2023-01--ml4sg-

The Monte Carlo Module

In [23]:

```python
class Die:

    def faces(self, face):
        self.face_df=[self.face]
        _final_df=pd.DataFrame(self.face_df)

    def change_weight(self, face, new_weight):
        "Changes weight of die face"

        #Face value check
        if side_face not in self.die.face.values:
            raise ValueError(f"Face '{side_face}' not defined for this die.")

        try: #Weight is float
            side_weight=float(side_weight)
        except ValueError:
            raise ValueError(f"Weight '{side_face}' not float/cannot be conve

        #Update
        self.die.loc[self.die.face == side_face, 'weight'] = side_weight

    def roll(self, n_rolls=1):
        "Rolls the the dies n number of times and returns a list of results."
        return self.die.face.sample(n_rolls, weights=self.die.weight, replace

    def show(self):
        "Shows the dataframe created with current faces and weights in intial
        return self._final_df
```

In [26]:
```python
class Game:

    def dice(self, die_objects):
        self.die_objects_df = pd.DataFrame(self.die_objects)
        die_sides=self.die.face
        if die_sides is not self.game.die_objects.values:
            raise ValueError(f"Sides '{die_sides}' not equal.")
        #only the most recent roll
        return self.die_objects_df
```

In [19]:
```python
class Analyzer:


    def roll_face_count(self, face, face_count):
        "Checks number of time a given face appears when rolled."
        self.face_count = face_count
        new_face_count = self.face_count
        #Check face and add 1 to count per roll

    def jackpot(self, jackpot_count):
        "Count the number of times a roll face all faces as the same."
        if face_count is new_face_count:
            jackpot_count = jackpot_count + 1
```

Test Module

In [15]:
```python
testi = Die()
```

In [16]:
```python
testi
```

Out[16]:
```
<__main__.Die at 0x7fbc475e2670>
```

Test Results

In [ ]:

Scenarios

In [ ]:

In [ ]:

In [ ]: