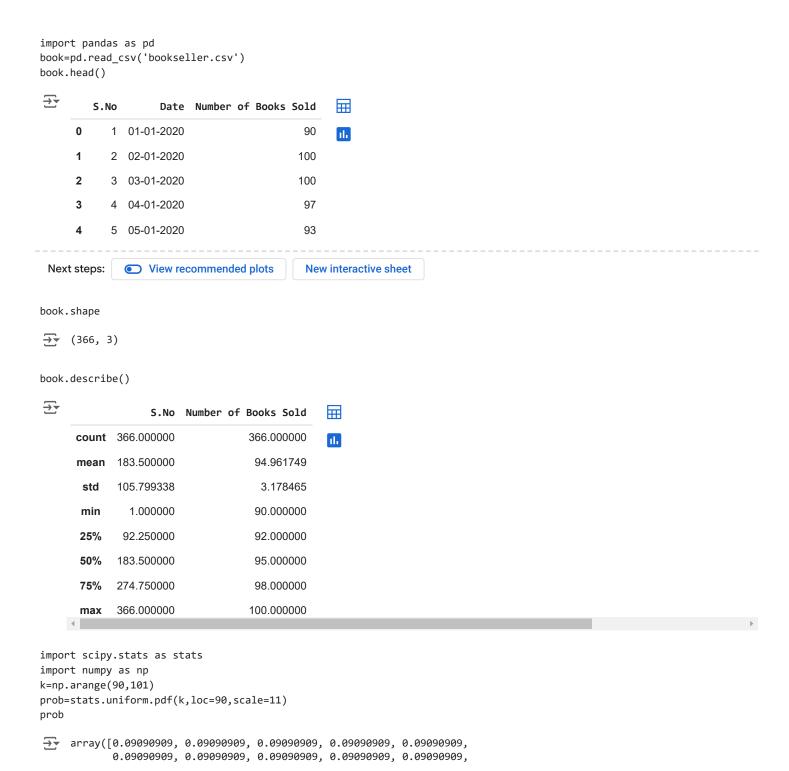
Discrete Uniform Distribution

Problem statement

The number of books sold by a bookseller per day is given in 'bookseller.csv'. Let X = Number of books sold by a bookseller per day X is a Discrete Random variable (because it represents the book count). Let's see the distribution of X and answer the below questions.

- 1. Find the probability that more than (or equal to) 96 books will be sold on a given day
- 2. Find the probability that less than (or equal to) 92 books will be sold on a given day



0.09090909])

1) Find the probability that more than (or equal to) 96 books will be sold on a given day 1-stats.uniform.cdf(96,90,11)

→ **0.454545454545454**

2) Find the probability that less than (or equal to) 92 books will be sold on a given day stats.uniform.cdf(93,90,11)

• 0.2727272727272727

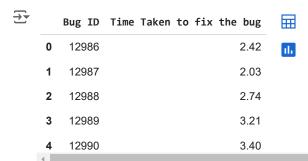
Continuous Uniform Distribution

Problem statement

IT industry records the amount of time a software engineer needs to fix a bug in the initial phase of software development in 'debugging.csv'. Let X = Time needed to fix bugs X is a continuous random variable. Let's see the distribution of X and answer the below questions.

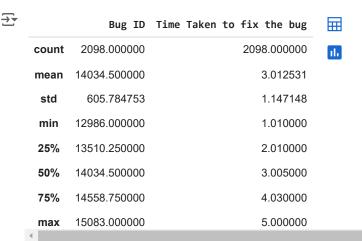
- 1. Find the probability that a randomly selected software debugging requires less than three hours
- 2. Find the probability that a randomly selected software debugging requires more than two hours
- 3. Find the 50th percentile of the software debugging time

bug=pd.read_csv('debugging.csv')
bug.head()



Next steps: View recommended plots New interactive sheet

bug.describe()



```
9/19/24, 8:44 AM
                                                            Assignment1_DSA.ipynb - Colab
    import numpy as np
    from scipy.stats import uniform
    x=np.linspace(1,5,50)
    probs=stats.uniform.pdf(x,1,4)
    probs
    ⇒ array([0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25,
                0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25,
                0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25,
                0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25, 0.25,
                0.25, 0.25, 0.25, 0.25, 0.25, 0.25])
    # 1)Find the probability that a randomly selected software debugging requires less than three hours
    stats.uniform.cdf(3,1,4)
    <del>→</del> 0.5
    # 2)Find the probability that a randomly selected software debugging requires more than two hours
    1- stats.uniform.cdf(2,1,4)
```

→ 0.75

3)Find the 50th percentile of the software debugging time uniform.ppf(q=0.25, loc=1, scale=4)

→ 2.0