**Statistics**

Answer 1 :-

The correlation coefficient of 0.7 indicates a strong relationship between SAT score and college GPA. The closer the correlation coefficient is to 1, the stronger the positive relationship.

**Answer 2 :-**

Statistic - >

<https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Statistics/Statistics_Answer_2.ipynb>

**Answer 3 :-**

Statistic - >

<https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Statistics/Statistics_Answer_3.ipynb>

**Answer 4 :-**

Since there are 20 slips of paper in the hat, each with a unique number between 1 and 20 so the total number of possible outcomes are 20.

The perfect square numbers between 1 to 20 are 1, 4, 9, and 16. So there are four favorable outcomes.

Therefore the probability of drawing a perfect square number is given by.

Prob = = =

**Answer 5 :-**

To calculate the probability that a randomly selected late taxi belongs to company A we use Bayes Theorem.

A: Taxi belongs to Company A

B: Taxi belongs to Company B

L: Taxi is late

We want to find P(A|L), which is the probability that a taxi belongs to Company A given that it is late.

According to the problem statement:

P(A) = 0.8 (Company A has 80% of the taxis)

P(B) = 0.2 (Company B has 20% of the taxis)

P(L|A) = 0.05 (Company A's taxis have a 95% success rate, so the probability of being late is 1 - 0.95 = 0.05)

P(L|B) = 0.1 (Company B's taxis have a 90% success rate, so the probability of being late is 1 - 0.90 = 0.1)

Using Bayes' theorem:

P(A/L) = = = = 0.67

**Answer 6 :-**

Statistic - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Statistics/Statistics_Answer_6.ipynb>

**Answer 7 :-**

Statistics - >

Equation of 1st line is 2X + 3Y – 8 = 0

Write y in terms of x

* 2X + 3Y = 8
* 3Y = - 2X + 8
* Y = X + = (slope)\*x + intercept
* Y = byx \* X + C
* byx =

It is given that var(x) = 4

Equation of 2nd line is 2Y + X – 5 = 0

Write x in terms of y

* X = -2Y + 5 = (slope)\*x + intercept
* X = bxy \* Y + C
* bxy = -2

To find the variance of Y we need to find Correlation Coefficient

**Correlation Coefficient :**

r = √ bxy \* byx

= √ -2 \*

= √

=

Here value of correlation coefficient is negative because values of bxy and byx are negative.

Correlation coefficient =

1. **Variance of Y :**

bxy =

**σ** (y) = =

Variance of Y =

1. **Coefficient of determination**

**R2 = r2**

**=**

**Standard error of estimate of X on Y**

**Sxy = σ** (y) \* √ 1 - **r2**

=

= -0.3849

**Standard error of estimate of Y on X**

**Syx = σ** (x) \* √ 1 - **r2**

= 2 \* √ 1 -

= - 0.6666

**Answer 8 :-**

Statistic - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Statistics/Statistics_Answer_8.ipynb>

**Answer 9 :-**

Statistic - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Statistics/Statistics_Answer_9.ipynb>

**Answer 10 :-**

Statistic - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Statistics/Statistics_Answer_10.ipynb>

**Answer 11 :-**

Statistic - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Statistics/Statistics_Answer_11.ipynb>

**Answer 12 :-**

Statistic - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Statistics/Statistics_Answer_12.ipynb>

**Python**

Answer 1 :-

Python - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/tree/main/Python/Python-Answer-1>

Answer 2 :-

Python - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/tree/main/Python/Python-Answer-2>

Answer 3 :-

Python - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/tree/main/Python/Python-Answer-3>

Answer 4 :-

Python - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/tree/main/Python/Python-Answer-4>

Answer 5 :-

Python - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/tree/main/Python/Python-Answer-5>

Answer 6 :-

Python - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Python/Python-Answer-6/Python_Answer_6.ipynb>

Answer 7 :-

Python - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/tree/main/Python/Python-Answer-7>

Answer 8 :-

Python - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/tree/main/Python/Python-Answer-8>

Answer 9 :-

Python - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/tree/main/Python/Python-Answer-9>

Answer 10 :-

Python - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/tree/main/Python/Python-Answer-10>

**Machine Learning:-**

Answer 1 :-

Machine Learning - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Machine%20Learning/MachineLearning_Answer_1.ipynb>

Answer 2 :-

Machine Learning - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Machine%20Learning/MachineLearning_Answer_2.ipynb>

Answer 3 :-

Machine Learning - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Machine%20Learning/MachineLearning-Answer-3.ipynb>

Answer 4 :-

Machine Learning - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Machine%20Learning/MachineLearning_Answer_4.ipynb>

Answer 5 :-

Machine Learning - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Machine%20Learning/MachineLearning-Answer-5.ipynb>

Answer 8:-

Machine Learning - > <https://github.com/Pranit200/PlacementAssignement_PranitAnap/blob/main/Machine%20Learning/MachineLearning-Answer-8.ipynb>