

INDEX

S.NO	TITLE	
1	Each new term in the Fibonacci sequence is generated by adding the previous two terms. By starting with 1 and 2, the first 10 terms will be:1,2,3,5,8,13,21,34,55,89,... By considering the terms in the Fibonacci sequence whose values do not exceed four million, find the sum of the even-valued terms.	
2	The prime factors of 13195 are 5,7,13 and 29. What is the largest prime factor of the number 600851475143?	
3	A palindromic number reads the same both ways. The largest palindrome made from the product of two 2-digit numbers is 9009=91×99. Find the largest palindrome made from the product of two 3-digit numbers.	
4	By listing the first six prime numbers: 2,3,5,7,11, and 13, we can see that the 6th prime is 13. What is the 10001st prime number?	
5	A Pythagorean triplet is a set of three natural numbers, $a < b < c$, for which, $a^2 + b^2 = c^2$. For example, $3^2 + 4^2 = 9 + 16 = 25 = 5^2$. There exists exactly one Pythagorean triplet for which $a + b + c = 1000$. Find the product abc .	
6	Longest Collatz Sequence	
7	Factorial Digit Sum	
8	Amicable Numbers	
9	Pandigital products	
10	Circular Prime	
11	Create data files having name, age, DoJ, DoR, empcode,salary in json,xml,xls Merge all those files as a singlefile into xls file	
	A) How will you merge these two tables to create a single table	
	B) Print those who are receiving salary greater than 5000	
	C) Print those who are receiving salary inbetween 1000 and 10000	
	D) Print those employees whose age is greater than 50	
	E) Print those employees who have joined the company in less than one year	
12	Mean, Median, Mode and Standard Deviation	
13	Input XLS file and find the Mean, Median, and Mode	

14	Correlation without using builtin function	
15	Linear Regression using dataset	
16	Multiple Linear Regression using dataset	
17	Logistic Regression	
18	Poisson Regression	
19	Non-linear equation	
20	Charts and Graphs	
	A) Bar Chart	
	B) Box Plot	
	C) Pie Chart	
	D) Histogram	
	E) Line Plot	
21	Distributions	
	A) Binomial Distribution	
	B) Normal Distribution	
	C) Continuous Uniform Distribution	
	D) Exponential Distribution	
	F) Chi-squared Distribution	
22	Hierarchical Clustering	
23	K – Means Clustering	
24	Case study on Guna's Theory	
25	Analysis of Variance (ANOVA)	
26	Wilcox on signed-rank test	
27	Time Series Analysis	
	1. Moving Average	
	Auto Regression	
	3. ARIMA Model	
	4. Time series analysis using Stock Data	
	5. Time series analysis using Weather Temperature data	

28	Decision Trees on any dataset	
29	Random Forest using Titanic dataset	
30	Survival analysis	
31	Mathematical functions using Numpy	
32	Data analytics using Pandas	
33	Visual representations using Matplotlib	
34	Normal distribution to evaluate fitness of data	