

# Question #01

## BOW

	data Science is one of the most	Important	Guesses in Computer Science	this best Scientific paper
1	1	1	1	0
2	1	1	1	0
3	1	1	1	0
4	1	1	1	1
5	1	1	1	1
6	1	1	1	1
7	1	1	1	1
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85	1	1	1	1
86	1	1	1	1
87	1	1	1	1
88	1	1	1	1
89	1	1	1	1
90	1	1	1	1
91	1	1	1	1
92	1	1	1	1
93	1	1	1	1
94	1	1	1	1
95	1	1	1	1
96	1	1	1	1
97	1	1	1	1
98	1	1	1	1
99	1	1	1	1
100	1	1	1	1

Total

12

9

6

Analysis

0

0

1



Day: \_\_\_\_\_

Data Science is one of the most important	courses in	computer	best Scientists perform Analysis
0.04	0.083	0.04	0.04
0.05	0.05	0.05	0.05
0.06	0.06	0.06	0.06
0.07	0.07	0.07	0.07
0.08	0.08	0.08	0.08
0.09	0.09	0.09	0.09
0.10	0.10	0.10	0.10
0.11	0.11	0.11	0.11
0.12	0.12	0.12	0.12
0.13	0.13	0.13	0.13
0.14	0.14	0.14	0.14
0.15	0.15	0.15	0.15
0.16	0.16	0.16	0.16
0.17	0.17	0.17	0.17
0.18	0.18	0.18	0.18
0.19	0.19	0.19	0.19
0.20	0.20	0.20	0.20
0.21	0.21	0.21	0.21
0.22	0.22	0.22	0.22
0.23	0.23	0.23	0.23
0.24	0.24	0.24	0.24
0.25	0.25	0.25	0.25
0.26	0.26	0.26	0.26
0.27	0.27	0.27	0.27
0.28	0.28	0.28	0.28
0.29	0.29	0.29	0.29
0.30	0.30	0.30	0.30
0.31	0.31	0.31	0.31
0.32	0.32	0.32	0.32
0.33	0.33	0.33	0.33
0.34	0.34	0.34	0.34
0.35	0.35	0.35	0.35
0.36	0.36	0.36	0.36
0.37	0.37	0.37	0.37
0.38	0.38	0.38	0.38
0.39	0.39	0.39	0.39
0.40	0.40	0.40	0.40
0.41	0.41	0.41	0.41
0.42	0.42	0.42	0.42
0.43	0.43	0.43	0.43
0.44	0.44	0.44	0.44
0.45	0.45	0.45	0.45
0.46	0.46	0.46	0.46
0.47	0.47	0.47	0.47
0.48	0.48	0.48	0.48
0.49	0.49	0.49	0.49
0.50	0.50	0.50	0.50
0.51	0.51	0.51	0.51
0.52	0.52	0.52	0.52
0.53	0.53	0.53	0.53
0.54	0.54	0.54	0.54
0.55	0.55	0.55	0.55
0.56	0.56	0.56	0.56
0.57	0.57	0.57	0.57
0.58	0.58	0.58	0.58
0.59	0.59	0.59	0.59
0.60	0.60	0.60	0.60
0.61	0.61	0.61	0.61
0.62	0.62	0.62	0.62
0.63	0.63	0.63	0.63
0.64	0.64	0.64	0.64
0.65	0.65	0.65	0.65
0.66	0.66	0.66	0.66
0.67	0.67	0.67	0.67
0.68	0.68	0.68	0.68
0.69	0.69	0.69	0.69
0.70	0.70	0.70	0.70
0.71	0.71	0.71	0.71
0.72	0.72	0.72	0.72
0.73	0.73	0.73	0.73
0.74	0.74	0.74	0.74
0.75	0.75	0.75	0.75
0.76	0.76	0.76	0.76
0.77	0.77	0.77	0.77
0.78	0.78	0.78	0.78
0.79	0.79	0.79	0.79
0.80	0.80	0.80	0.80
0.81	0.81	0.81	0.81
0.82	0.82	0.82	0.82
0.83	0.83	0.83	0.83
0.84	0.84	0.84	0.84
0.85	0.85	0.85	0.85
0.86	0.86	0.86	0.86
0.87	0.87	0.87	0.87
0.88	0.88	0.88	0.88
0.89	0.89	0.89	0.89



Date: \_\_\_\_\_

Day: \_\_\_\_\_

## IDF

$$IDF = \log \left[ \frac{(\text{Total No of Documents})}{(\text{No of Word occur in Document})} \right]$$

Data	1
Science	1.17
is	1.17
one	1.17
of	1.17
the	1
most	1.47
Important	1.47
Courses	1.17
in	1.47
Computer	1.47
Science	1.17
this	1.47
best	1.47
Scientists	1.47
perform	1.47
Analysis	1.47



Day

Data Science is one of the most important courses in ~~Computer~~ Computer Science.

Data Science	is one of the most	Important	Courses in Computer
0.193	0.24	0.19	0.24
0.24	0.32	0.32	0.32
0.54	0	0.27	0

  

this	best	Scientists	perform	Analysis	Computer
0.42	0	0	0	0	0.327
0	0.459	0.459	0.45	0	0



Date: \_\_\_\_\_

Day: \_\_\_\_\_

## Question # 02

### Cosine

$$V_1 = \{1, 2, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0\}$$

$$V_2 = \{1, 1, 1, 1, 1, 1, 0, 0, 1, 0, 0, 1, 1, 0, 0\}$$

$$V_3 = \{2, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1, 1\}$$

$$\cos \theta = \frac{\vec{V} \cdot \vec{W}}{|\vec{V}| |\vec{W}|}$$

	0	1	2
0	1	0.7	0.28
1	0.7	1	0.3
2	0.28	0.3	1

### Manhattan

$$\text{Manhattan}(V_1, V_2) = 0.58$$

$$\text{Manhattan}(V_2, V_3) = 0.241$$

### Euclidean



Date: \_\_\_\_\_

Day: \_\_\_\_\_

$$\text{euclidean}(V_1, V_2) = 0.91$$

$$\text{euclidean}(V_2, V_3) = 1.262$$