## Statistics with R. ASSESSMENT - 2

1 Question -1:

Problem: Find out the Range, standard deviation, quantite deviation 2 its coefficients from the following data:

Roll Mo.	į <sub>1</sub> .	2	3	ч	5	6	7
Marks	20	28	40	12	30	15	50

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code & input in R consoleur 19 1111 AND 19 111 AND 19 11 AN

> # RANGE:

(05. EL = 19) / (05. E) - 52) = (8) + 1  $> \times = c (20, 28, 40, 12, 30, 15, 50)$ 

> X

[1] 20 28 40 12 30 15 50

> Summary (x)

Min. 1st Qu. Median Mean 3rd Qu. Max.

12.00 17.50 28.00 27.86 35.00 50.00

7 range = 50-12

7 range

7 # VARIANCE :

7 var (x)

[1] 186/8095

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```
> # STANDARD DEVIATION:
7 sd = sqrt (van(x))
                                     · leading
7 sd
[1] 13.66783
          and the best
> # QUARTILE DEVIATION;
 7, 9d = (35,-17.50)/2
  [1] 8.75
  7
  7 # COEFFICIENT OF QUARTILE DEVIATION:
   7 cqd = (35-17.50)/(35+17.50)
   7 cqd
   [1] 0.333333
                      u a er og er og 11
                the total Aledin Man 3rd au Alax.
OUTPUT :
7 Range: 38
                                21-03 = 20-12
> standard deviation: 13.66783
> Quantile deviation: 8.75
7 coefficient of Quartite deviation: 0.3333333333
                              * ANNANCE:
                                     (x) ray =
                                   d 408 + 481 [i]
```

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Problem: Goals scored by two teams in a football match were as follows:

no of goals scored in a football match	No. of football matches played			
- tootball match		Team B		
0	15	20		
,	10	10		
2	07	05		
3	05	04		
4	03	02		
5	02	0		

Calculate coefficient of variation & state which is more 001 \* ((K) 100m / 001 = 845

## Code & Input in R console : -

> # TEAM A

> x = c (15, 10, 7, 5, 3, 2)

> mean (x)

> var (x)

[1] 23.6

> sd = sqrt (var (x))

7 sd

[1] 4.857983

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of variation is less.

```
> cv = (sd/mean(x))*100
 7 69.39976
> # TEAM B:
  7 7 = c (20, 10, 5, 4, 2, 1)
   > mean (y)
   [1] 7
  > var (y)
  [1] 50.4
  > sd = sqrt (var(y))
    > 29
    Coloules of fixed of sembon a laborate [1]
    > CV = (5d/mean(4)) * 100
     > cv
                       - 2 3 Japat in Knowle 2 2002
     [1] 101.4185
      >
                             (S. E. C. T. W. d) ) = 4 5
          Team A is more consistent since its coefficient
          of variation is len.
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```

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D Question - 3:

problem: Calculate Karl Pearson's coefficient of correlation from the following data and interpret its

(( rioux \* ( closy) ir pa ) (x + 4) rax = # \*

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	1	48	45
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و و سم مه	3	17 17 15 W	
	4	23	25
	5	1 64 all 28.0 St a de:	45

## Code & Input in R comole:

> van(x)

[1] 194

7 var (4)

[1] 137.5

y var (x, y)

[i] 70

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 $> \gamma = van(x, y) / sqrt(van(x) * van(y))$ and the state of t [1] 0.4285937 > cor. test (a, y, method = " pearson") pearson's product-moment cornelation data: x and y t = 0.82164, df = 3, p-value = 0.4715 alternative hypothesis: true correlation is not equal to o 95 percent confidence theret: interval: -0.7295343 0.9511849 sample estimates: COY 0.4285937 ( de so, do, se HE) OF IU

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