**help sum # will show everything about sum function**

**help mean # will show everything about Mean function**

**allMarks=[24,44,36,36;52,57,68,76;**

**66,53,69,73;**

**85,40,86,72;**

**15,47,25,28;**

**79 ,72,82, 91]**

allMarks =

24 44 36 36

52 57 68 76

66 53 69 73

85 40 86 72

15 47 25 28

79 72 82 91

|  |  |
| --- | --- |
| **Show Full 3rd row**  allMarks (3 , :) | ans =  66 53 69 73 |
| **sum( )** function shows the result as row matrix |  |
| allMarks  **sum(** allMarks **)** | allMarks =  24 44 36 36  52 57 68 76  66 53 69 73  85 40 86 72  15 47 25 28  79 72 82 91  ans =  321 313 366 376 |
| iF we want as column matrix then  we need to use dimension 2  **sum(Matrix ,2)** function shows the result as row matrix |  |
| sum(allMarks,2)  allMarks =  24 44 36 36  52 57 68 76  66 53 69 73  85 40 86 72  15 47 25 28  79 72 82 91 | ans =  140  253  261  283  115  324 |
| Now show the 3rd row’s sum  Sum(allMarks(3,:),2)  allMarks =  24 44 36 36  52 57 68 76  66 53 69 73  85 40 86 72  15 47 25 28  79 72 82 91 | ans = 261 |
| Show sum of first 3 columuns of 4th and 6th row:  allMarks  sum(allMarks([4,6],1:3),2) | allMarks =  24 44 36 36  52 57 68 76  66 53 69 73  85 40 86 72  15 47 25 28  79 72 82 91  ans =  211  233 |
| Compute the mean of the elements of the vector X.  The mean is defined as  mean (X) = SUM\_i X(i) / N  where N is the length of the X vector.  -- mean (X)  -- mean (X, DIM)  -- mean (X, OPT)  -- mean (X, DIM, OPT)  -- mean (..., OUTTYPE) |  |
| Show all mean  allMarks  mean (allMarks) | allMarks =  24 44 36 36  52 57 68 76  66 53 69 73  85 40 86 72  15 47 25 28  79 72 82 91  ans =  53.500 52.167 61.000 62.66 |
| Show all mean dimension 2  allMarks  mean (allMarks,2) | allMarks =  24 44 36 36  52 57 68 76  66 53 69 73  85 40 86 72  15 47 25 28  79 72 82 91  ans =  35.000  63.250  65.250  70.750  28.750  81.000 |
| 1.Scale down the last(4th) column to 50 and show the ans.  2. Scale down the all columns to 10 and show the ans.  To do number 2: we first make 4th column scale up to 100 then to 10: (x= value)   1. 100 ---- x 50 -------x/100\*50 2. 50-------- x/100\*50 100-------{ (x/100\*50)/50 }\*100 10--------10 \* [{ (x/100\*50)/50 }\*100] =x\*(10/50)=x\*0.2 ruls=(new scale/previous scale) \* main value       allMarks   1. **allMarks( : , 4) = allMarks( : , 4)\* 0.5**  |  |  | | --- | --- | | **By matrix** | **Described way** | | **diag([0.1,0.1,0.1,0.2]);**  **allMarks\*ans** | **temp4clm = allMarks( : , 4)\*.2**  **allMarks=[** **temp1\_3clm, temp4clm]** | | allMarks =  24 44 36 36  52 57 68 76  66 53 69 73  85 40 86 72  15 47 25 28  79 72 82 91   |  |  | | --- | --- | | **By matrix** | **Described way** | | **ans =**  **2.4000 4.4000 3.6000 3.6000**  **5.2000 5.7000 6.8000 7.6000**  **6.6000 5.3000 6.9000 7.3000**  **8.5000 4.0000 8.6000 7.2000**  **1.5000 4.7000 2.5000 2.8000**  **7.9000 7.2000 8.2000 9.1000** | **temp4clm =**  **3.6000**  **7.6000**  **7.3000**  **7.2000**  **2.8000**  **9.1000**  **temp1\_3clm =**  **2.4000 4.4000 3.6000**  **5.2000 5.7000 6.8000**  **6.6000 5.3000 6.9000**  **8.5000 4.0000 8.6000**  **1.5000 4.7000 2.5000**  **7.9000 7.2000 8.2000**  **allMarks =**  **2.4000 4.4000 3.6000 3.6000**  **5.2000 5.7000 6.8000 7.6000**  **6.6000 5.3000 6.9000 7.3000**  **8.5000 4.0000 8.6000 7.2000**  **1.5000 4.7000 2.5000 2.8000**  **7.9000 7.2000 8.2000 9.1000** | |