```
clc;
clear all;
close all;
%Matlab program to create and manipulate matrices
%step 1 create a 10x10 ramdom matrix 'A' with 'rand' comand
A = rand(10);
display("random matrix = ");
display (A);
%step 2: Multiply the matrix 'A' with 100
A1 = A*100;
display("matrix A multiplied with 100= ");
display(A1);
%step 3:Roud the element of resultant matrix to a nearby integer with
%'Fix'comand
A2=fix(A1);
display("round the elements of matrix with fix command");
display(A2);
%step 4a: Replace elements of A2<10 with zeros
A2(A2<10)=0;
display("Replace the elements of A2<10 with zeros");
display(A2);
%step 4b: replace the elements of A2>90 with infinity
A2(A2>90)=inf;
display("replace elements of A2>90 with infinity");
display(A2);
%step 5:extract elements such that 30 <= A<=50 into vector B
B=A2(A2 >= 30 & A2 <= 50);
display("extract such that 30<=A<=50 into vector 'B'");
display(B);
%Name:P.Charan
%Roll number:24B11EC246
%Date:4-12-2025
```

```
    "random matrix = "


A =

  Columns 1 through 7

    0.2243    0.1079    0.3119    0.5013    0.7136    0.8352    0.4923
    0.2691    0.1822    0.1790    0.4317    0.6183    0.3225    0.6947
    0.6730    0.0991    0.3390    0.9976    0.3433    0.5523    0.9727
    0.4775    0.4898    0.2101    0.8116    0.9360    0.9791    0.3278
    0.6237    0.1932    0.5102    0.4857    0.1248    0.5493    0.8378
    0.2364    0.8959    0.9064    0.8944    0.7306    0.3304    0.7391
    0.1771    0.0991    0.6289    0.1375    0.6465    0.6195    0.9542
    0.8296    0.0442    0.1015    0.3900    0.8332    0.3606    0.0319
    0.7669    0.5573    0.3909    0.9274    0.3983    0.7565    0.3569
    0.9345    0.7725    0.0546    0.9175    0.7498    0.4139    0.6627

  Columns 8 through 10
```

```
    0.2815    0.7150    0.5038
    0.2304    0.8562    0.4896
    0.7111    0.2815    0.8770
    0.6246    0.7311    0.3531
    0.5906    0.1378    0.4494
    0.6604    0.8367    0.9635
    0.0476    0.1386    0.0423
    0.3488    0.5882    0.9730
    0.4513    0.3662    0.1892
    0.2409    0.8068    0.6671

    "matrix A multiplied with 100= "


A1 =

  Columns 1 through 7

   22.4277   10.7889   31.1940   50.1283   71.3574   83.5221   49.2345
   26.9055   18.2228   17.8982   43.1721   61.8337   32.2460   69.4743
   67.3031    9.9095   33.8956   99.7560   34.3288   55.2262   97.2734
   47.7492   48.9764   21.0146   81.1603   93.6027   97.9129   32.7755
   62.3716   19.3245   51.0153   48.5652   12.4774   54.9309   83.7803
   23.6445   89.5892   90.6364   89.4448   73.0585   33.0424   73.9072
   17.7124    9.9090   62.8924   13.7547   64.6477   61.9472   95.4174
   82.9643    4.4166   10.1534   39.0005   83.3152   36.0637    3.1923
   76.6922   55.7295   39.0855   92.7356   39.8282   75.6510   35.6869
   93.4478   77.2495    5.4617   91.7494   74.9822   41.3901   66.2654

  Columns 8 through 10

   28.1502   71.5045   50.3781
   23.0383   85.6182   48.9594
   71.1129   28.1508   87.7049
   62.4573   73.1051   35.3142
   59.0609   13.7763   44.9444
   66.0438   83.6723   96.3530
    4.7555   13.8602    4.2298
   34.8785   58.8209   97.2958
   45.1341   36.6157   18.9207
   24.0905   80.6760   66.7120

    "round the elements of matrix with fix command"


A2 =

    22    10    31    50    71    83    49    28    71    50
    26    18    17    43    61    32    69    23    85    48
    67     9    33    99    34    55    97    71    28    87
    47    48    21    81    93    97    32    62    73    35
    62    19    51    48    12    54    83    59    13    44
    23    89    90    89    73    33    73    66    83    96
    17     9    62    13    64    61    95     4    13     4
```

```
    82     4    10    39    83    36     3    34    58    97
    76    55    39    92    39    75    35    45    36    18
    93    77     5    91    74    41    66    24    80    66

    "Replace the elements of A2<10 with zeros"


A2 =

    22    10    31    50    71    83    49    28    71    50
    26    18    17    43    61    32    69    23    85    48
    67     0    33    99    34    55    97    71    28    87
    47    48    21    81    93    97    32    62    73    35
    62    19    51    48    12    54    83    59    13    44
    23    89    90    89    73    33    73    66    83    96
    17     0    62    13    64    61    95     0    13     0
    82     0    10    39    83    36     0    34    58    97
    76    55    39    92    39    75    35    45    36    18
    93    77     0    91    74    41    66    24    80    66

    "replace elements of A2>90 with infinity"


A2 =

    22    10    31    50    71    83    49    28    71    50
    26    18    17    43    61    32    69    23    85    48
    67     0    33   Inf    34    55   Inf    71    28    87
    47    48    21    81   Inf   Inf    32    62    73    35
    62    19    51    48    12    54    83    59    13    44
    23    89    90    89    73    33    73    66    83   Inf
    17     0    62    13    64    61   Inf     0    13     0
    82     0    10    39    83    36     0    34    58   Inf
    76    55    39   Inf    39    75    35    45    36    18
   Inf    77     0   Inf    74    41    66    24    80    66

    "extract such that 30<=A<=50 into vector 'B'"


B =

    47
    48
    31
    33
    39
    50
    43
    48
    39
    34
    39
    32
    33
```

```
    36
    41
    49
    32
    35
    34
    45
    36
    50
    48
    35
    44
```

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