

Ex. 7.14 Write MATLAB program to generate and print product table as a two dimensional matrix. Modify the matrix two times. The first modification is to replace any even number in the matrix with zero. The second modification is to replace any odd number with zero. Print the three matrices.

Sol.

```
clear,clc
z=ones(10);
for x=1:10
    for y=1:10
        z(x,y)=x*y;
    end
end
w=z;
disp(z)
disp(' ')
for i=1:10
    for j=1:10
        if round(z(i,j)/2)==z(i,j)/2
            z(i,j)=0;
        end
    end
end
disp(z)
disp(' ')
z=w;
for i=1:10
    for j=1:10
        if round(z(i,j)/2)~=z(i,j)/2
            z(i,j)=0;
        end
    end
end
disp(z)
```

Ex. 7.15 Write MATLAB program to evaluate the following function for (x) values taken from a two dimensional matrix of 3 rows and 4 columns. Make use of loops in the program.

$$y = \sin(2x) + \ln(x + 1)$$

$$x = \begin{bmatrix} 2 & 5 & 7 & 8 \\ 3 & 4 & 12 & 1 \\ 9 & 24 & 14 & 10 \end{bmatrix}$$

Sol.

```
clear,clc
y=ones(3,4);
x=ones(3,4).*[2      5      7      8 ;...
              3      4     12      1 ;...
              9     24     14     10];

for i=1:3
    for j=1:4
        y(i,j)=sin(2*x(i,j))+log(x(i,j)+1);
    end
end
disp(x)
disp(' ')
disp(y)
```