1. Write code to sum the squares of odd integers in the range [10,20]. Use a for-loop.

2. Write code to sum the squares of odd integers in the range [10,20]. Use no for-loop.

3. Write code to define a vector with values equal to the first 10 numbers in a Fibonacci sequence, when the first two elements are [0,1]. Each of the other values is the sum of the previous two numbers. For example, the third element is 0+1.

4. For -8 ≤ t ≤ 8 seconds, and $x(t) = e^{-4|t|}$
Write code to plot x vs t. (t on horizontal axis). Label the axes.

5. Write code to draw a circle using plot(x,y). Give the circle a radius of 4, and centered at coordinates 2,2.

6. Given the code

```
x=-1:0.5:1;
for n=1:length(x)
    if x(n)<0
       y(n)=-x(n);
    else
      y(n)=x(n);
    end
end
sum(y)
```

6. Replace the for-loop and if statements with a single Matlab statement.

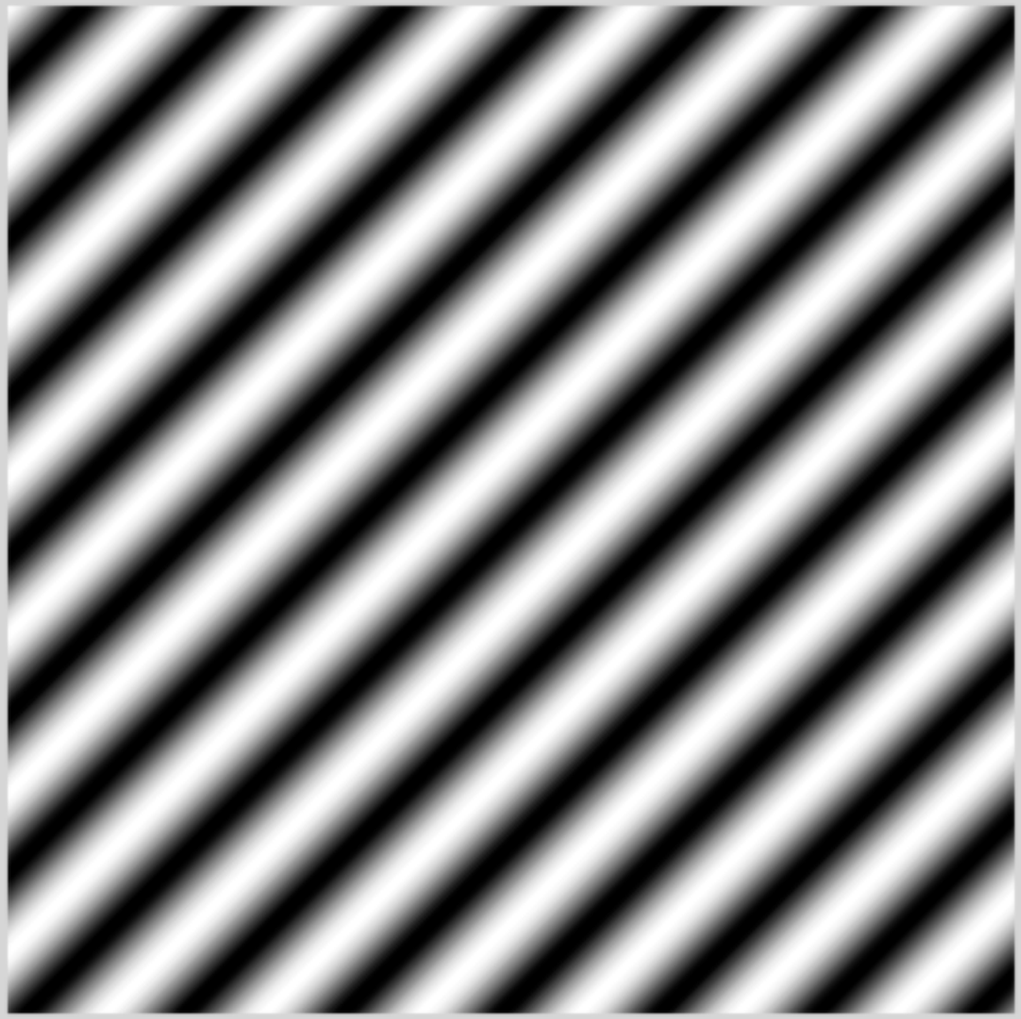
7. Write code to find t, u, and v for these equations:
   10t-11u+12v=3, 15t-13v=2, and 16t-14u+17v=1

8. Generate this matrix using no more than one for-loop.

$$\begin{bmatrix} 1 & 1 & 0 & 0 & 0 & 0 \\ 1 & 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 & 1 \end{bmatrix}$$

9. Generate this NxN matrix in your function named grat135.

   Hint: use cos(kx+ky)



10. Display the matrix from 9, using N=400