

NAME :

1. Execute the following commands:

```
>> t = 0:0.5:4;
>> y1 = cos(2*pi*t);
>> y2 = cos(4*pi*t);
>> plot(t,y1);
>> hold on;
>> plot(t,y2);
```

Explain why you see twice the same plot.

2. Define a matrix which permutes the elements in a cyclic way, for example

```
>> a = [0 0 0 1; 1 0 0 0; 0 1 0 0; 0 0 1 0]
>> a*[1 2 3 4]'
```

shifts first to second, second to third, third to fourth, and fourth to first.

Give the MATLAB commands (using **sparse**) to define such a permutation matrix of size 10, to permute [1 2 3 4 5 6 7 8 9 10] into [10 1 2 3 4 5 6 7 8 9].

Alternative: On Monday 4/28, give the answers to 7.4.1,2 and 8.4.1,4,5.