MATH 592 Quiz 1 Name:

Show all work. 5 points each.

1. Consider the difference matrix defined by

```
d=10;
D = diag(ones(1,d),0) + diag(-ones(1,d-1),1);
D(d,1)=-1 %circulant Diffrence Matrix;
```

Use Matlab to find the eigenvalues and singular values

2. Use Matlab or show by hand what the DFT of $x = [1\,1\,1\,1\,1\,1\,1\,1\,1\,1]^T$ is.