

## Υλοποίηση του αλγορίθμου των k κοντινότερων γειτόνων

### k-nearest neighbor algorithm

#### % Iris Data Set loading

```
load fisheriris;  
X=meas';  
x=[7 3 5 2]';
```

#### % knn algorithm

```
[idx d]=knnsearch(X',x',"K",3)
```

```
idx = 1x3  
    142    78    140  
d = 1x3  
    0.3464    0.4243    0.4359
```

```
species(idx)
```

```
ans = 3x1 cell  
'virginica'  
'versicolor'  
'virginica'
```

#### % Data Plotting

```
plot3(X(1,1:50),X(2,1:50),X(3,1:50),'ro'); hold on; grid on  
plot3(X(1,51:100),X(2,51:100),X(3,51:100),'bo')  
plot3(X(1,101:150),X(2,101:150),X(3,101:150),'go');  
  
plot3(x(1),x(2),x(3),'kx')  
plot3(X(1,idx),X(2,idx),X(3,idx),'k+')
```

