Math150B Characters

```
D = DihedralGroup(4)
```

```
D
```

```
Dihedral group of order 8 as a permutation group
```

```
D.cardinality()
```

```
8
```

```
D.gens()
```

```
[(1,2,3,4), (1,4)(2,3)]
```

```
D.list()
```

```
[(), (2,4), (1,2)(3,4), (1,2,3,4), (1,3), (1,3)(2,4), (1,4,3,2)
(1,4)(2,3)]
```

```
C = D.conjugacy_classes(); C
```

```
[Conjugacy class of () in Dihedral group of order 8 as a permut
group, Conjugacy class of (2,4) in Dihedral group of order 8 as
permutation group, Conjugacy class of (1,2)(3,4) in Dihedral gr
of order 8 as a permutation group, Conjugacy class of (1,2,3,4)
Dihedral group of order 8 as a permutation group, Conjugacy cla
(1,3)(2,4) in Dihedral group of order 8 as a permutation group]
```

```
len(C)
```

```
5
```

```
for i in range(len(C)):
    print C[i].list()
```

```
[()]
[(2,4), (1,3)]
[(1,4)(2,3), (1,2)(3,4)]
[(1,4,3,2), (1,2,3,4)]
[(1,3)(2,4)]
```

```
T = D.character_table()
```

```
T
```

```
[ 1  1  1  1  1]
[ 1 -1 -1  1  1]
[ 1 -1  1 -1  1]
[ 1  1 -1 -1  1]
[ 2  0  0  0 -2]
```