Assignment 6

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Aaron Davis I pledge that I did this work without any unauthorized assistance.

1, 2, 3 in folder

4. Read in 7hvp.pdb

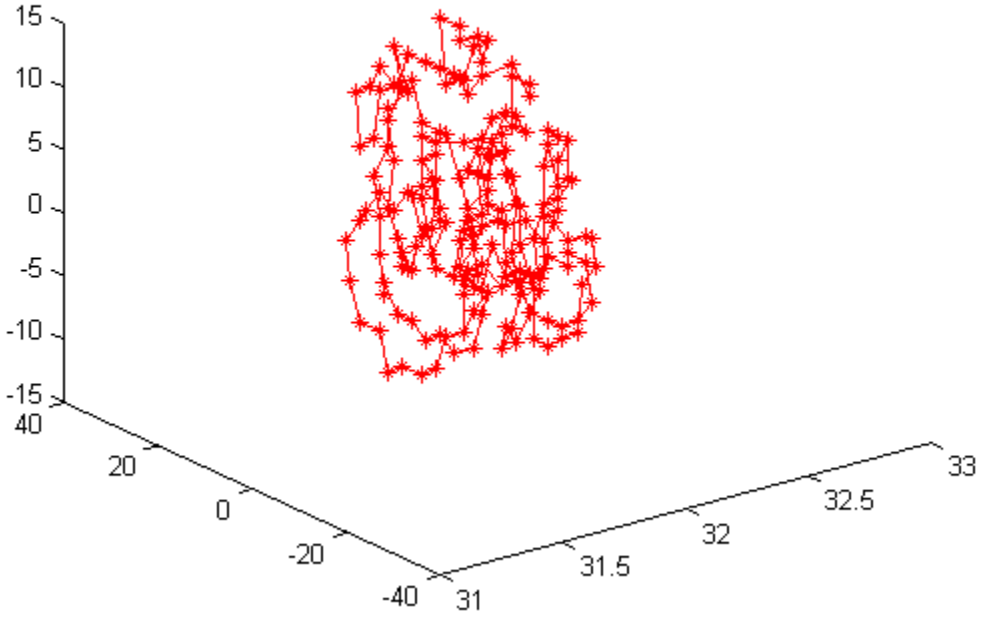
```
[anum1, aname1, resno1, coords1] = readPDBFile('7HVP.pdb');
[atoms1, ~] = size(anum1);
atoms1
```

```
atoms1 =

        1547
```

5. Plot CA backbone of 7hvp.pdb

```
CAcoords1 = drawCA(aname1, coords1);
plot3(CAcoords1(:,1), CAcoords1(:,2), CAcoords1(:,3), '-r*');
```



6. Display how many hydrogen bonds you found in 7hvp.pdb.

```
bonds1 = hBonds(anum1, aname1, resno1, coords1);
[num1, ~] = size(bonds1);
num1
%There were 138 bonds.
```

```
Elapsed time is 26.519164 seconds.

num1 =

   138
```

7. Read in 1gfl.pdb.

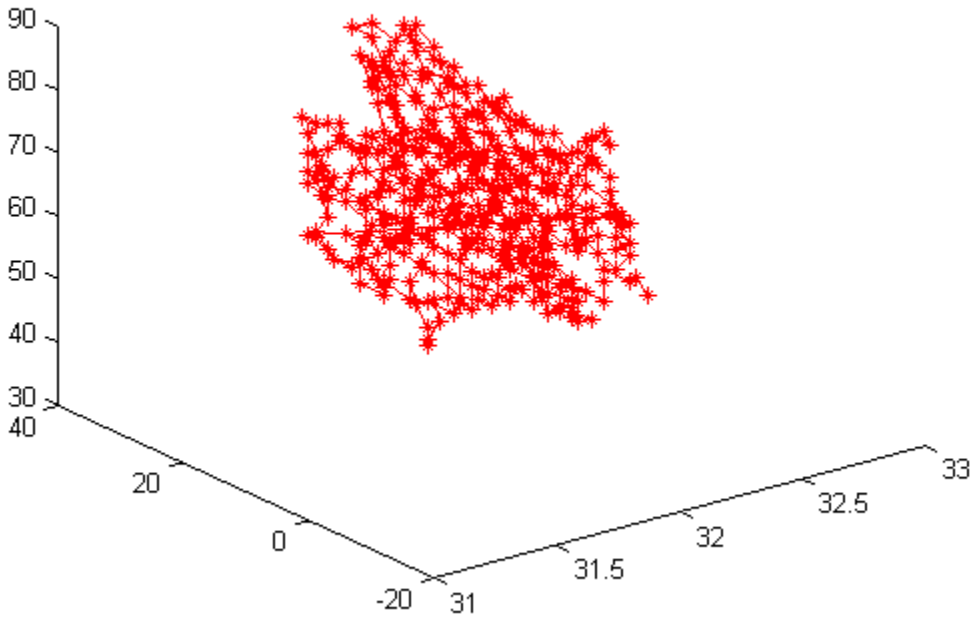
```
[anum2, aname2, resno2, coords2] = readPDBFile('1GFL.pdb');
[atoms2, ~] = size(anum2);
atoms2
```

```
atoms2 =

        3650
```

8. Plot CA backone of 1gfl.pdb

```
CAcoords2 = drawCA(aname2, coords2);
plot3(CAcoords2(:,1), CAcoords2(:,2), CAcoords2(:,3), '-r*');
```



9. Display how many hydrogen bonds you found in 1gfl.pdb.

```
bonds2 = hBonds(anum2, aname2, resno2, coords2);
[num2, ~] = size(bonds2);
num2
%There were 423 bonds.
```

```
Elapsed time is 148.879642 seconds.

num2 =

   423
```

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