

# EIWL Sections 47 and 48

8/8

Due to getting a little behind in the final two weeks of the semester, I only checked for completeness on PS 18-21. ~Brian

```
In[*]:= f[1] = 0;
        f[n_] := f[n - 1] + (n - 1) * (n);
        f[1001]

In[*]:= Clear[f];
        f[1] =  $\frac{1}{1 + x}$ ;
        f[n_] :=  $\frac{1}{1 + f[n - 1]}$ ;
        f[10]

In[*]:= Flatten[Table[Join[{i}, {j}], {i, 10}, {j, 10}]]

In[*]:= ListLinePlot[Table[First[Timing[n^n]], {n, 10000}]]

In[*]:= ListLinePlot[Table[First[Timing[Sort[RandomSample[Range[n]]]]], {n, 200}]]

In[*]:= Counts[If[StringLength[#] > 1, StringTake[#, 2], Nothing] & /@ WordList[]]

In[*]:= Reap[Fold[10 Sow[#1] + #2 &, {1, 2, 3, 4, 5}]] [[2]] [[1]]

In[*]:= Reap[Nest[If[EvenQ[#], Sow[#] / 2, 3 # + 1] &, 1000, 20]] [[2]] [[1]]

Out[*]:= {1000, 500, 250, 376, 188, 94, 142, 214, 322, 484, 242, 364, 182}
```