

Office hours @ 11am ☺

## 9.5 Numerical Methods pt. II

### Predictor-Corrector

Idea: • Obtain "temporary" result w/a bad method  
• Gain accuracy by feeding inacc. solution to better method.

- predict w/ fw. Euler  $\tilde{y}_{k+1} = y_k + h f(y_k)$
- correct w/ trapezoidal rule

$$\rightarrow y_{k+1} = y_k + \frac{h}{2} (f(y_k) + f(\tilde{y}_{k+1}))$$

### Heun's method

More generally than P-C: Method that evaluates  $f$  a number of times per step is called

- multi-stage
- single-step
- Runge-Kutta