1. **Section 5.1**: initial value problem, Lipschitz condition, well-posed problem, sufficient conditions for well-posedness of an initial value problem
   
   *Problems: 2, 4, 8*

2. **Section 5.2**: difference equation, Taylor formula for a real-valued function of one variable, Euler method
   
   *Problems: 1*

3. **Section 5.3**: Taylor formula for a real-valued function of two variables, Taylor methods of order 2 and 3, local truncation error
   
   *Problems: 1*

4. **Section 5.4**: Modified Euler method and Midpoint method
   
   *Problems: 1, 9*

5. **Section 5.5**: tolerance, error control algorithm

6. **Section 5.6**: definition of an $m$-step method, a two- and three-step Adams-Bashforth methods
   
   *Problems: 11b*

7. **Section 3.2**: divided-differences, forward and backward Newton's interpolating polynomials
   
   *Problems: 4, 5*

8. **Section 5.10**: stability of a numerical method
   
   *Problems: TBA*

For all numerical methods listed above, you need to know how to derive a finite-difference scheme and how to estimate a local truncation error.