Converting Between a Series of Cash Flows, Present Value, Annuities, and Future Value.

- Convert a series of cash flows into present value
  use \((\text{cash flow}) \times (P/F, I\%, t)\)
- Choose interest rate \(i\%\) to be the average cost of capital
  or the opportunity cost of resources
- **Sum** all the present values
- Convert the present value into future values or annuities as desired
  use \((\text{present value}) \times (F/P, i\%, t)\) or \((\text{present value}) \times (A/P, i\%, N)\)
- Annuities are paid back at the ends of each periods, while the equivalent present value of the annuity is incurred at the beginning of the period
• Future value is more than the present value: $1 is worth more today than tomorrow
• Payment of $100 moved one year into the future would be $100*(1+i\%)
• Payment of $100 moved one year back to the past would be $100/(1+i\%)

• Nominal interest rate is discrete
• Effective interest rate is continuously compounded
• Converting from nominal to effective, use effective = e(nominal) -1.

See note on equivalence (Prof. Martland), in your readers.