Valuation of Sure Cashflows - concepts to review

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1. Commonly seen cashflow types in Financial Instruments
    a. Review the below cashflow types; think about real life examples of these cashflow types; and don't worry about the formulas
    b. Single Sum
        i. Example: zero-coupon bond
        ii. $PV = \frac{CF_T}{(1+r)^T}$
    c. Annuity
        i. Example: Mortgage
        ii. $PV = C_t \frac{1-(1+r)^{-T}}{r} = \sum_{t=1}^{T} \frac{C_t}{(1+r)^t}$
    d. Perpetuity
        i. Example: Pension
        ii. $PV = \frac{C_t}{r}$
    e. Coupons with Ballon Payment
        i. Example: Coupon Bonds/Car Leases
        ii. $PV = Annuity + Single\ Sum = \sum_{t=1}^{T} \frac{C_t}{(1+r)^t} + \frac{CF_T}{(1+r)^T}$
    f. Uneven Cashflow
        i. Example: Project budgeting/Anything
        ii. $PV = \sum_{t=1}^{T} \frac{CF_t}{(1+r)^t}$

2. Basics with regards to Bond
    a. Zero-coupon Bond vs. Coupon-bearing Bond
    b. Basic bond valuation (refer to 1e)
    c. Coupon-bearing bond valuation in between 2 coupon payments
    d. Think about this: what are the inputs of the valuation formula for a bond? How will you categorize these inputs ?

3. Basics with regards to Forwards/Futures contracts
    a. A contracts between 2 parties under which both parties are obliged to transact the underlying assets at a pre-determined price at a future date
    b. Basic valuation: $F = S_0(1+r)^T$
    c. More complex model
        i. Underlying assets with holding benefits
        ii. Underlying assets with holding costs
    d. What is a "cash-and-carry" strategy ?

4. Basics with Stock Valuation
    a. What have you learnt in school?
        i. DCF
        ii. Ratios
        iii. GGM
    b. Think about this: when market price is different from valuation from your model, what does it mean?
    c. Think about this: if you want to report the stock valuation fairly in a company's financial statement, what price will you use?