Recap

Accounting and profitability

Projects and investing

In this exercise:

- Recap of previous exercises
- Tips for the final delivery

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Cash basis vs. accrual basis

- Income statement is created on an accrual basis: revenue also includes the value of products, that have been sold, but for which the actual payment still hasn't been received. **Depreciations** are also accounted on an accrual basis: the actual capital expenditure of an investment is not reduced from annual revenue as a single expense. Instead, the expenditure is reduced in the income statement through depreciations. **In order to examine liquidity, cash flows must be known.**
- Switching between accrual basis and cash basis is done by accounting for the change in **net working capital (NWC).**
- **WORKING CAPITAL = ACCOUNTS RECEIVABLE + INVENTORY – ACCOUNTS PAYABLE**

  (Formulated in the lecture materials. Accounts receivable = the value of products that have been sold, but haven't been paid for, accounts payable = value of materials that have been received, but not paid for.)

Parts of the income statement

+ **REVENUE** (number of sold products x selling price, *DOES NOT INCLUDE VAT!*)

- Cost of Goods Sold (CoGS, Matching principle!)

= **GROSS PROFIT (Gross margin)**

- Other expenses (rent, electricity, water, workforce…)

= **EBITDA** (Earnings Before Interest, Tax, Depreciations & Amortizations)

- Depreciations (the capital expenditures of a long-term investment are split between the operating years)

= **EBIT** (Earnings Before Interest & Tax)

- Interest (= Amount of interest-bearing debt x interest rate)

= **EBT**

- Taxes (= EBT x tax rate)

= **Earnings (Net Income, profit)**

Cash flows and liquidity

Three cash flows: **Cash flow from operations** – cash from regular business activities

EBITDA
+ Working capital beginning of financial y.
– Working capital end of financial year
– Interests
– Taxes
= **OPERATING CASH FLOW**

Cash flows and liquidity

Three cash flows: **Cash flow from investments** – cash from things such as purchase of fixed assets (negative), sale of fixed assets (positive), lending money (negative) etc.

FIXED ASSETS BEGINNING OF F.Y.
– Fixed assets end of financial year
– Depreciations
= CASH FLOW FOR INVESTMENTS
(i.e. investments during the financial year)

Cash flows and liquidity

Three cash flows: **Cash flow from financing** - financing the company: debt, equity and dividends

SHAREHOLDER'S CAPITAL BEG. F.Y.
– Shareholder's capital end of financial y.
– Dividends paid out during financial year
+ Loans outstanding end of period
– Loans outstanding beginning of period
= **CASH FLOW FOR FINANCING**

Cash flows and liquidity

Three cash flows: Cash flow from operations, investments and financing

- **Change in cash = CF_{OPS} + CF_{INV} + CF_{FIN}**
- **Liquidity (ability to quickly pay for expenses) is not determined by net profit, but by the cash available to the company! Going bankrupt is caused by running out of cash (as calculated by cash flows), not by negative earnings (as seen from the income statement)!**

Free Cash Flow

$\text{EBIT} \times (1 - \tau)$ [i.e. Unlevered Net Income]

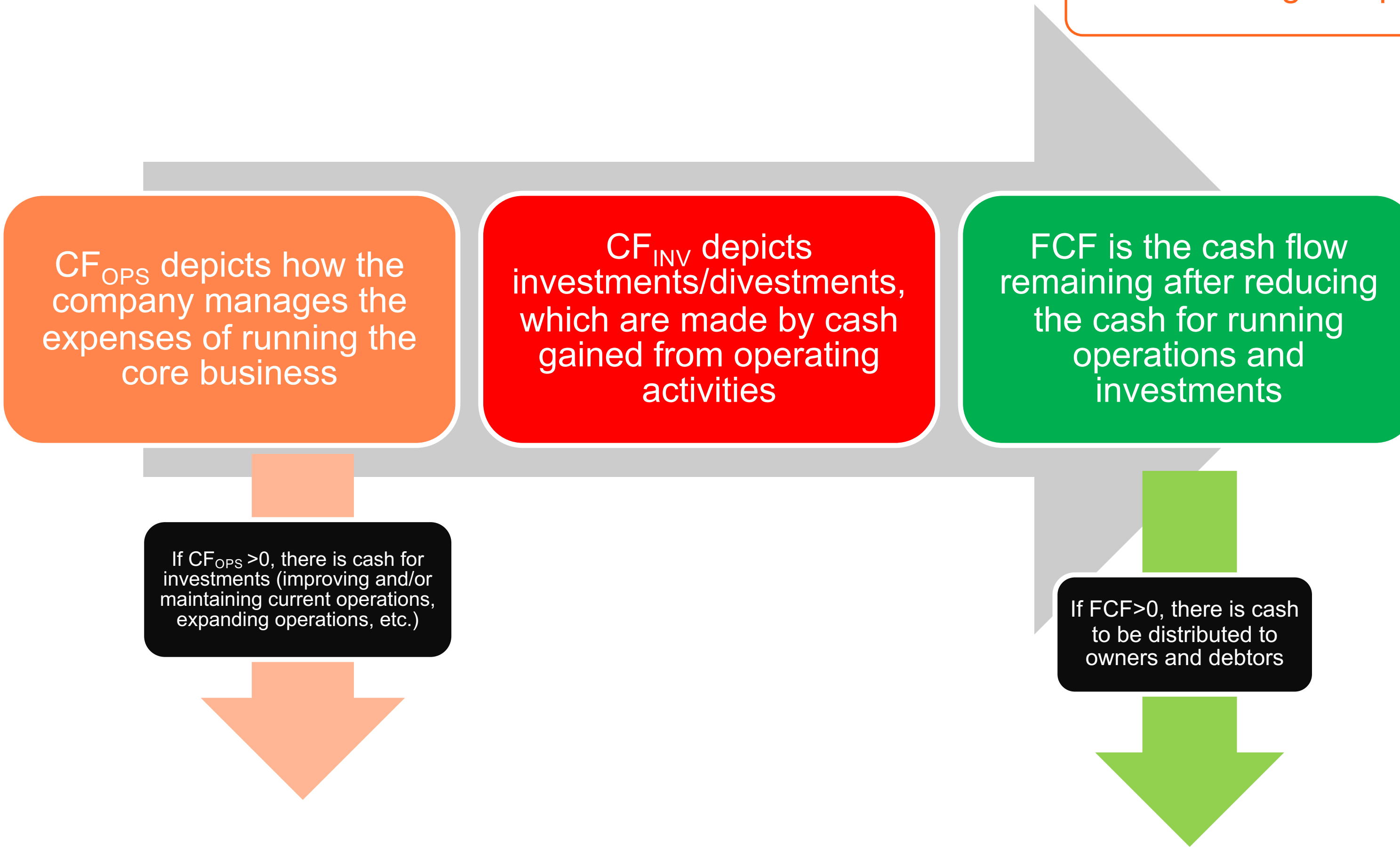
\+ Depreciations

\+ Working capital beginning of financial y.

− Working capital end of financial year

\+ Cash flow for investments

= FREE CASH FLOW (FCF_i)


CF_{OPS} depicts how the company manages the expenses of running the core business
CF_{INV} depicts investments/divestments, which are made by cash gained from operating activities
FCF is the cash flow remaining after reducing the cash for running operations and investments
If $CF_{OPS} > 0$, there is cash for investments (improving and/or maintaining current operations, expanding operations, etc.)
If FCF>0, there is cash to be distributed to owners and debtors

Balance sheet

- Balance sheet has two sides: Assets and Capital (Equity & Liabilities)
- In order to gain assets for a company, the capital required to buy those assets has to come from somewhere, either from shareholders, accrued cash flows (Equity) or debtors (Liabilities).
- The balance sheet equity is true at all times, i.e. $A_{total} = D_{total} + E_{total}$ – the value on either side can change over time, but the other side must always equal the other, so it too must change equally.

Financial indicators

- The information gained from the balance sheet can be compressed into **financial indicators.**
- With the financial indicators, we can try to get information from e.g. the **profitability** of the business, its **liquidity** or its **solidity** or **solvency.**
- A few examples:
    - Profitability: **ROE** = EBIT / Equity, **EBIT-% (Operating margin)** = EBIT / Revenue
    - Liquidity: **Current ratio** = Current assets / Current liabilities, **Quick ratio**
    - Solidity: **Equity ratio** = Equity/ (Equity + Debt), **Debt-to-equity ratio** = Debt / Equity

NPV of the free cash flows

Discounting = determining the present value of a cash flow that is to be received in the future.

Free cash = cash a company produces through its operations, less the cost of expenditures on assets

WACC = cost of capital

NPV

NPV, **net present value**, is used to analyze the profitability of a projected investment or project

$$\mathrm{NPV} = \sum_{i=0}^{\infty} \frac{\mathrm{FCF}_i}{(1 + \mathrm{WACC})^i}$$

If NPV > 0, the investment is profitable

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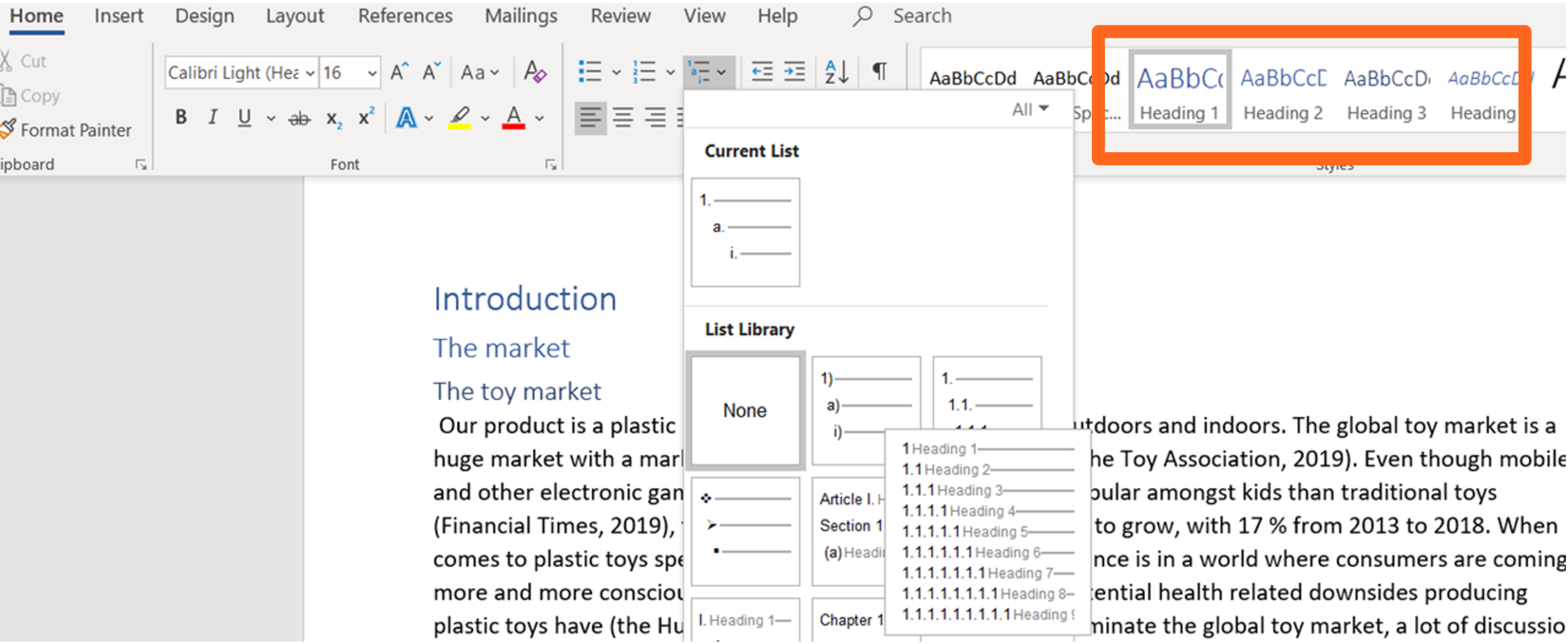
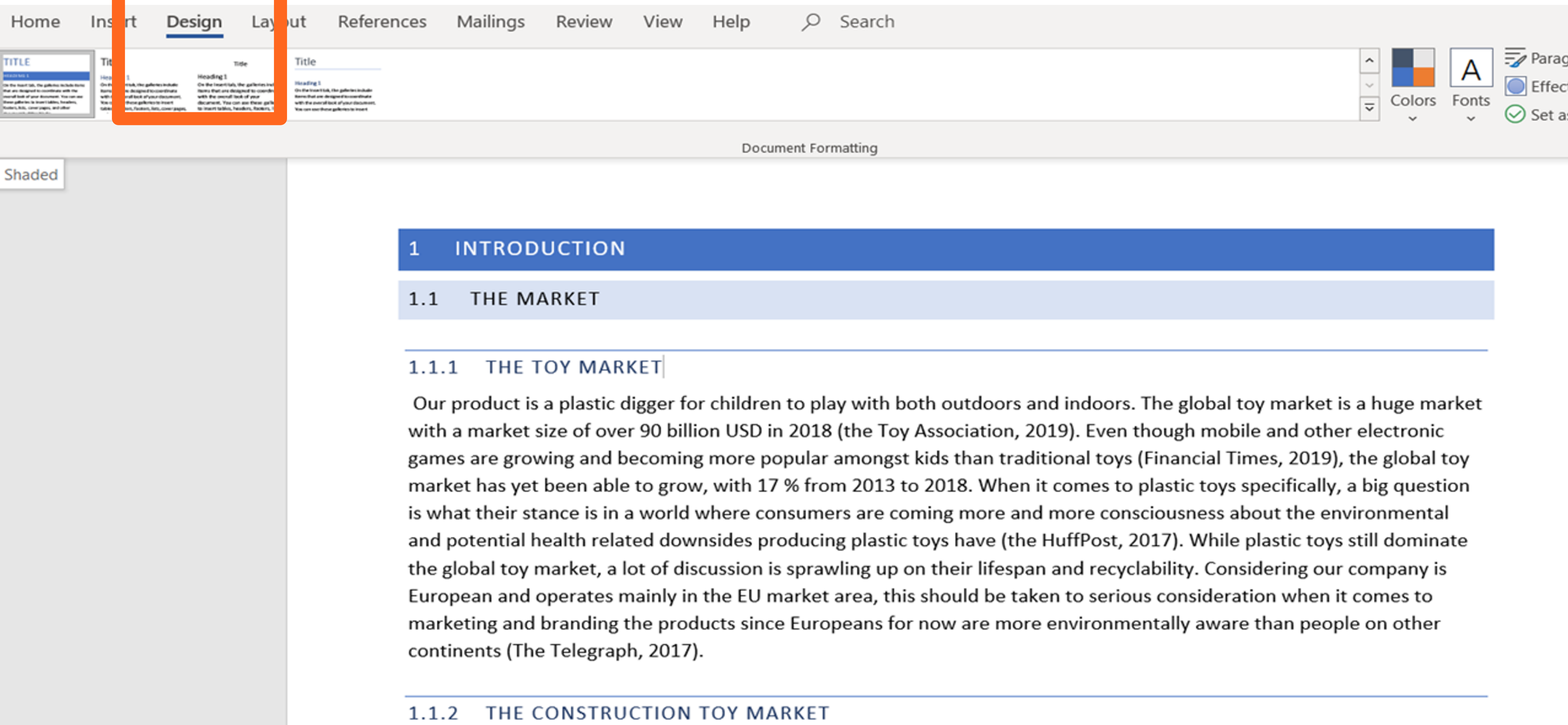
- Exam

Indexed headings

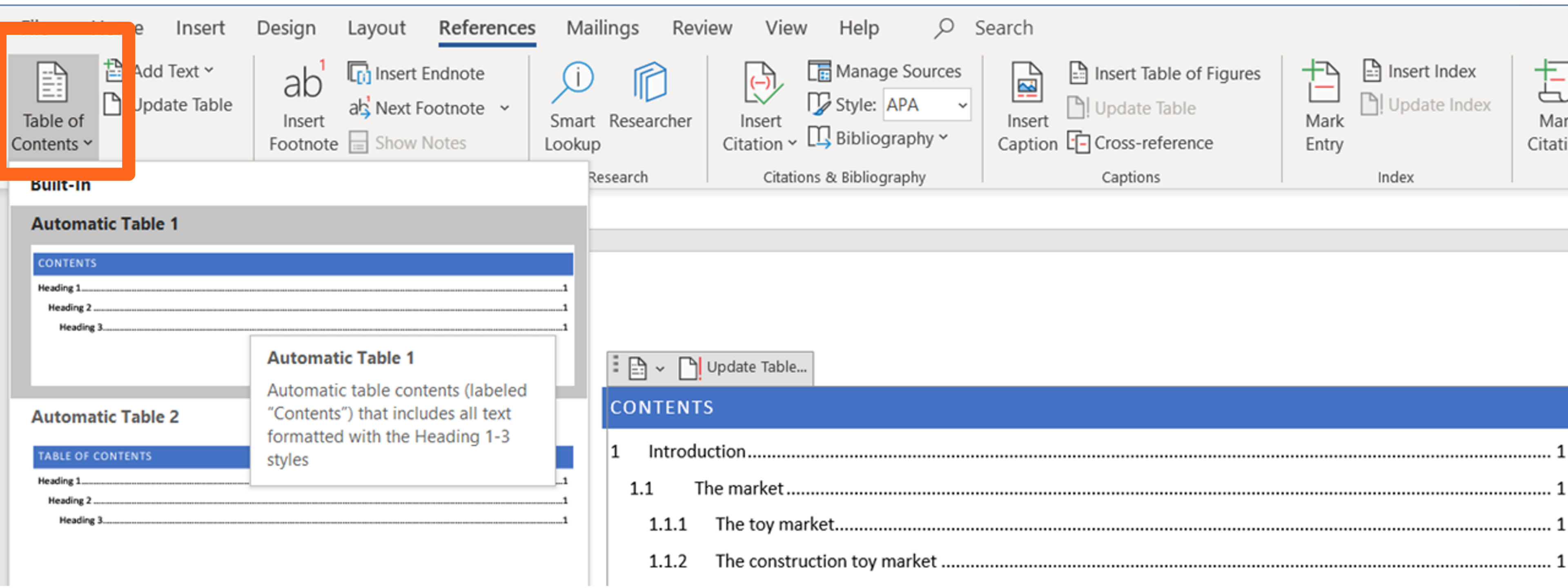
Mark the headings and subheadings of your text. After that you can automatically number them. This also makes it possible to easily add a design



Adding a design



Add a table of contents



Grading of the final delivery

Idea: 20%
Originality of the offering and concept, feasibility, finding a niche

Reporting: 20%
Source references, cataloging, layout, use of graphs, reference to graphs and tables, structure, finishing, spelling, use of attachments

Substance and content: 60%
Partial returns have been done correctly, deficiencies in partial returns have been corrected, figures used in the text are consistent throughout the final delivery, estimates are reasonable, concepts have been used correctly, good reasoning, ...
The size of the group increases the level of requirements of this section

The final delivery is a combination of finalized partial returns.

The final delivery must be returned as a PDF, the deadline is Friday, 27 November at 16:00

Please include the finalized Excel file of the accounting you did in weeks 8 and 9 as well