Problem 1

See Excel file.

Problem 2

See Excel file.

Problem 3

See Excel file.

Problem 4

See Excel file.

Problem 5

See Excel file.

Problem 6

The preferred option changes with varying borrowing interest rates because the cost of borrowing impacts the total expense. Low interest rates reduce borrowing costs, making options that require financing more attractive. Conversely, high interest rates increase borrowing costs, making these options less appealing. Therefore, as interest rates fluctuate, the financial viability of each option in a choice table can change, shifting the preferred choice.

Problem 7

1. Capital cost for A is \$170,000 instead of \$70,000.
2. For the first year of the CCA depreciation the half year rule is not applied for option A.
3. For A, the operating cost starts at \$40,000 instead of starting at \$80,000.
4. For B the operating cost escalation should be \2%, but on the excel sheet it uses the loan interest increase.
5. For A, the sales revenue starts at \$140,000 instead of \$200,000.
6. For A, the sales revenue does not increase as 3%, it does not increase at all.
7. For option A, loan interest isn't removed to get the Taxable income.
8. For option B, the CCA is not added to get the ATCF.
9. For option B, loan interest is not included in the cash flow.
10. For option A, the discounted ATCF uses the loan interest rate instead of the MARR (discount rate) for discounting.
11. For option A, we don't lose money for underselling than the book value.

12. For option A, we don't subtract the total payment from the loan. We should only subtract the interest repayment.

Problem 8

To analyze the two credit card options, I would start by gathering detailed information about my spending habits, particularly how much I typically spend on gasoline and groceries each month, as these categories offer a rebate with the local bank's card. Next, I would estimate my average monthly balance to understand how much I might end up borrowing and subsequently paying in interest. With this data, I would calculate the annual cost of each card. For the national bank card, this would include the $150 annual fee plus the interest on any carried balance. For the local bank card, I would factor in the higher interest rate of 14% but also subtract the 2% rebate on gasoline and groceries from my total annual costs. By comparing the total annual costs of both cards based on my spending and borrowing patterns, I could make an informed decision on which card offers the best overall value. Additionally, I would consider any other benefits or drawbacks, such as customer service quality or additional perks that might be important to me.

Problem 9

See Excel file.

Problem 10

See Excel file.

Problem 11

See Excel for (a).

(b) : Products C and H are poor candidates. Product C has a low IRR of 5.0% with a standard deviation of 1.6%, offering minimal return above the risk-free rate. Product H, with an IRR of 8.0% and a high standard deviation of 6.0%, indicates high risk for relatively low return.

(c) : Among the remaining candidates, the choice depends on the firm's risk tolerance. Product G offers the highest return (IRR of 15.2%) but with high risk (standard deviation of 8.8%). Product F provides high returns (IRR of 13.8%) with moderate risk (standard deviation of 6.5%). Product D balances well with an IRR of 12.1% and lower risk (standard deviation of 3.6%). Products A and B have decent returns (IRRs of 10.4% and 9.8%) with low risks (standard deviations of 3.2% and 2.3%). The final choice should align with the firm's risk tolerance and investment strategy and preference.

Problem 12

Local jobs should indeed be counted as a benefit in a business casing analysis for government projects, such as building a new subway line, as they can provide significant economic and social advantages. Creating local jobs boosts the local economy by increasing employment opportunities, which can lead to higher household incomes, improved living standards, and increased consumer spending within the community. This, in turn, can stimulate further economic growth and development in the area. However, it is also essential to consider the quality and sustainability of the jobs created. Are they temporary construction jobs or long-term positions that will continue to benefit the community after the project's completion? Additionally, one must consider the opportunity cost of the project—whether the funds could be used more effectively elsewhere to provide even greater benefits. For example, instead of a subway line, the government might invest in renewable energy projects that also create jobs but have the added benefit of environmental sustainability. Thus, while local job creation is a crucial factor, it must be weighed alongside other economic, social, and environmental considerations to ensure the most beneficial outcome.