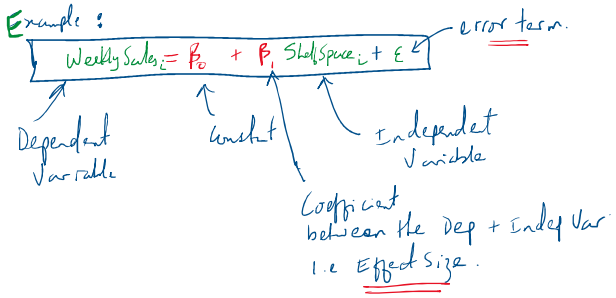
Question 3.1
Construct your model using chosen independent variables

$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \varepsilon$

Using variables from the Question
Define the model

⇒

Example:



Where:
β_0 is the intercept,
β_1, β_2, β_3 are the coefficients for the independent variables (Unemployment, Average Earnings Index, and Consumer Expenditure),
ϵ is the error term.

Using Literature (Journal Articles)
justify choice of independent variables.
- Use authors who states that there is a positive relationship between Profit and Independent Variable.
- Build a paragraph for each pair that you are using

Example: Profit and Total Assets.

The relationship between profit and total assets is complex and context-dependent, with studies showing both positive and negative effects depending on how profitability is measured and the industry examined.

Evidence is mixed across the sources. Athar Iqbal et al., 2012 found an association between non-current assets and firm profitability in Pakistani firms. Ruri Novarina et al., 2018 demonstrated that total asset turnover has a positive and significant influence on profitability in pharmaceutical companies (8 companies, 2012-2016). Similarly, Arni Purwanti et al., 2019 and Bella Aristiya Megananda et al., 2018 found total assets turnover significantly affects profit growth in food and beverage companies.

Question 3.2

Run the Regression.

- Use Enter method

Analyse → Regression → Linear

Select Variables. Dependent - Profit ?!

Independent - ?!, ?!

1. Coefficients:

Copy + Paste Coefficients Table from SPSS

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	10.261	4.221		2.431	.022
	OPERATING INCOME/TOTAL ASSETS	.603	.114	.720	5.272	<.001
	INDUSTRY SALES GROWTH	.090	.124	.099	.728	.473

a. Dependent Variable: FIRM'S RETURN ON ASSETS

State:

- Constant α = 10.261

β_1 = 0.603

β_2 = 0.090

Write Final Model:

Example:

Firm's ROA = 10.261 + 0.603 OPINTA + 0.90 Ind Sale

2. R^2 and Adjusted R^2

Write a paragraph on the meaning of R^2 and Adjusted R^2 Difference etc.

Copy + Paste Model Summary Table from SPSS.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.768[a]	.590	.560	4.4280

a. Predictors: (Constant), INDUSTRY SALES GROWTH, OPERATING INCOME/TOTAL ASSETS

State:

$R^2 = 0.590$

Adj $R^2 = 0.560$

Interpret R^2:

$R^2 = 0.590$ 41% is unexplained

∴ 59% of the Variation in Firm's ROA be explained by OpIn/TA and Industry Sales Growth

3. Significance of each Predictor

Copy + Paste Coefficients table from SPSS

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	10.261	4.221		2.431	.022
	OPERATING INCOME/TOTAL ASSETS	.603	.114	.720	5.272	<.001
	INDUSTRY SALES GROWTH	.090	.124	.099	.728	.473

a. Dependent Variable: FIRM'S RETURN ON ASSETS

State Hypothesis and Rule

$H_0 : \beta_j = 0$

$H_1 : \beta_j \neq 0$

If $p < 0.05$, we Reject H_0

∴ the Independent Variable has a statistically Significant effect on the dependent Variable.

Write Interpretation for <u>each</u> Independent Variable

Example:

- Effect of OpInTa is significant. Since $p < 0.05$.
-

Question 3-3

1. Which variable has the strongest influence

→ look at the Beta Coefficient

→ largest Significant one has the strongest influence

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	10.261	4.221		2.431	.022
	OPERATING INCOME/TOTAL ASSETS	.603	.114	.720	5.272	<.001
	INDUSTRY SALES GROWTH	.090	.124	.099	.728	.473

a. Dependent Variable: FIRM'S RETURN ON ASSETS

- State Name & Variable

2. Discuss Limitations and Assumptions of the estimated Model

- This is research Based!
- What are the Assumptions of Regression Models.
- and Limitations.
- Apply to your model.

3. Explain Economic Meaning of the coefficients:
Interpret the β values in relation to Profit
So the size of the effect on Profit.

Example interpretation (hypothetical):

$$\widehat{Profit} = 2.15 + 0.08(TotalAssets) - 0.05(TotalLiabilities)$$

Interpretation:

- A **1-unit increase in total assets** increases predicted profit by **0.08 units**, assuming liabilities remain constant.
- A **1-unit increase in total liabilities** reduces predicted profit by **0.05 units**, holding assets constant.

Additionally, go back to your justification in part 1.
Interpret accordingly.