

Solutions – Analysing and Solving Problems Lab Exercise

Exercise 1

Steps to complete the assignment report in Microsoft Word and improve presentation:

- Open Microsoft Word and create a new document.
- Save the document with an appropriate file name.
- Read the assignment instructions carefully.
- Research the topic and gather information.
- Create a report structure with headings and subheadings.
- Type the assignment content into the document.
- Use formatting tools such as bold, italics, font size, spacing, and alignment to improve presentation.
- Insert page numbers, a title page, and references where necessary.
- Use spell check and grammar check tools to correct mistakes.
- Read through the document again to proofread manually.
- Save the final version and submit the assignment.

Exercise 2

Input	Process	Output
Price of item 1 Price of item 2 Price of item 3	Read the three item prices Find the cheapest item Apply discount to cheapest item Calculate total amount to pay	Cheapest item price Discount amount Final total cost

Missing or implied information: The promotion assumes the customer buys exactly 3 items. It is also implied that the cheapest item becomes free.

Exercise 3

Input	Process	Output
Student number Student name Course name Credits passed	Read student details Determine required graduation credits Calculate remaining credits needed	Student details Current credits Credits remaining to graduate

Missing or implied information: The total number of credits required for graduation must be known (for example, 120 credits).

Exercise 4

Input	Process	Output
Pipe length = 12m Cost per meter = \$1.25	Calculate pipe installation cost	Total plumber charge

Number of joins = 4 Cost per join = \$0.90	Calculate join cost Add both costs together	
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Calculation:

Pipe cost = $12 \times \$1.25 = \$15.00$

Join cost = $4 \times \$0.90 = \$3.60$

Total cost = $\$15.00 + \$3.60 = \$18.60$

Missing or implied information: It is implied that the join cost is charged separately from the pipe installation cost.

Exercise 5

Input	Process	Output
Full test score Student score	Calculate grade percentage Compare percentage with grading rules Assign status	Grade percentage Student status (GOOD, FAIR, WEAK, FAIL)

Status Rules:

- Percentage $\geq 80 \rightarrow$ GOOD
- Percentage $\geq 60 \rightarrow$ FAIR
- Percentage $\geq 40 \rightarrow$ WEAK
- Percentage $< 40 \rightarrow$ FAIL

Missing or implied information: It is implied that the student score cannot exceed the full score and both values should be positive numbers.

Exercise 6

Input	Process	Output
Student ID Student name Course/module Attendance records	Record attendance Calculate attendance percentage Check attendance status	Attendance report Attendance percentage Present/Absent status

Possible implied information: The system may require attendance thresholds (for example, minimum 75% attendance required).