

Intervention: Topic 3

Name	Class	Date
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List out 6 steps of the system/program development & describe each steps.

	Step	Descriptions:
Step 1		
Step 2		
Step 3		
Step 4		
Step 5		
Step 6		

Write the definition of:

Algorithm	
Pseudo Code	
Flow Chart	

What are the rules of Pseudo code:

1	
2	
3	
4	

Draw the symbol for the flowchart:

Input		Branch	
Terminal		Process	
Decision		Data flow	

Create problem Analysis, pseudo code & flowchart for the problems below:

1. Create a program that calculates and display the number of single rolls of wallpaper needed to cover a room. The salesman will provide the length, width, and ceiling height of the room (in feet). He also will provide the number of square feet a single roll will cover.

Example:

Room size = 10 feet by 12 feet, with ceiling height of 8 feet

Single roll coverage = 30 square feet

- Calculate the perimeter of the room by adding together length and width, and then multiply the sum by 2: $(10 \text{ feet} + 12 \text{ feet}) * 2 = 44 \text{ feet}$.
- Calculate the wall area by multiplying the room's perimeter by its height : $44 \text{ feet} * 8 \text{ feet} = 352 \text{ square feet}$.
- Calculate the required number of single rolls by dividing the wall area by the number of square feet a single roll provides:
 $352 \text{ square feet} / 30 \text{ square feet} = 11.73 \text{ rolls}$

Food	Calories
Nasi lemak	357
Sandwich	185
Coconut Shake	388

2. Table above lists the calorie content of several food. Running burns off about 100 calories per mile. Write a program that requests three values from the user: the number of nasi lemak, sandwich and coconut shake consumed (in that order). The program should then display the number of miles that must be run to burn off the calories represented in that food.

Example:

Number of nasi lemak eaten:3

Number of sandwich eaten: 2

Number of coconut shake eaten:2

You ingested calories : 2217

You will have to run 22.17 miles to expend that much energy

3. Write a program that prints a multiplication table for numbers up to 12.
4. Given Ron 97 is \$n per litre, write the program of petrol can be purchased with the amount of money RM entered by the user.
5. You are required to design a multitasking program to produce these 3 outputs:
the area, circumference, a specific sector of a circle of 2 different circle.
 $\text{Area} = \pi r^2$ $\text{Circumference} = 2 \pi r$
 $\text{Sector} = 0.5 \times r^2 (\theta \div 180 \times \pi)$ where $(\theta = \text{angle})$

6. Design the pseudocode and flowchart for this output:

```
Enter your name: Huda
Enter a number: 13
Enter another number: 10
Thanks Huda.
The results :
    Multiplication: 130
    Division: 1.3
    Subtraction: 3
    Addition: 23
```

7. Design an Flowchart that computes the employee's gross salary given the hours work and the hourly rate. Assume that 15% of the salary is deducted as taxes

8. Convert this pseudocode into flowchart
1. Start
 2. Declare resistant, voltage, current
 3. Input resistant, voltage
 4. Compute $current = voltage / resistant$
 5. Output current
 6. End

9. Convert this flowchart into pseudocode

