

PF lab assignment 1

Problem #1: Displaying Children's Information

1. Input Child 1's Age, Height, and Weight
2. Input Child 2's Age, Height, and Weight
3. Display both children's information

Problem #2: Converting Miles to Kilometers

1. Ask for distance in miles
2. Check if input is in miles or kilometers
3. Convert miles to kilometers (multiply by 1.60934)
4. Display distance in kilometers

Problem #3: Interactive Arithmetic Calculator

1. Start
2. Ask user to enter first number
3. Ask user to enter second number
4. Ask user to select operation (addition, subtraction, multiplication, division)
5. Perform selected operation
 - Addition: $\text{result} = \text{number1} + \text{number2}$
 - Subtraction: $\text{result} = \text{number1} - \text{number2}$
 - Multiplication: $\text{result} = \text{number1} * \text{number2}$
 - Division: $\text{result} = \text{number1} / \text{number2}$ (check for division by zero)
6. Display result
7. Ask user if they want to perform another calculation
8. If yes, go back to step 2
9. End

Problem #5: Area of rectangle

Given data	Required Results
Length of the rectangle Width of the rectangle	Area
Processing Required	Solution alternatives
$\text{Area} = \text{Length} * \text{Breath}$	Define length and width and marks as input values. Define length and width and marks as constants

Problem #4: Student Details Record System

Given data	Required Results
Student's ID (SID) Student's Name (SName) Marks for Subject1 Marks for Subject2 Marks for Subject3 Max Marks	Obtained Marks (total) Percentage Student's ID (SID) Student Name (SName)
Processing Required	Solution alternatives
Total = subject1 + subject2 + subject3 Percentage = (total / max marks) * 100	Define student information and marks as input values. Define student information and marks as constants

Problem #6: Distance between Earth and Mars

Given data	Required Results
Number of days to reach Mars: 150 days Speed of the spaceship: 40,000 kilometers per day	Distance
Processing Required	Solution alternatives
Distance = Velocity * Time	Define the number of days and speed as constants Define the number of days and speed as inputs.

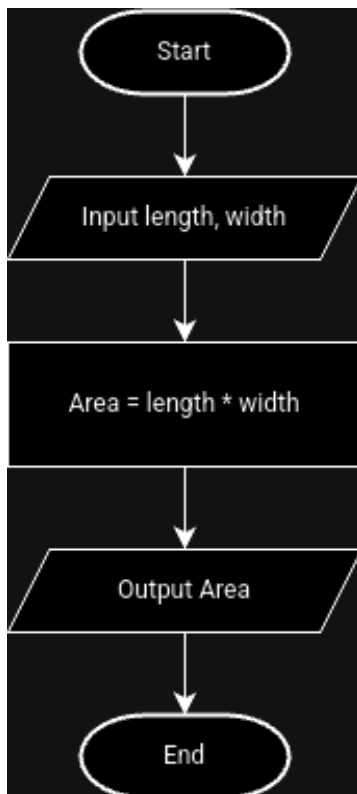
Problem #7: Celsius to Fahrenheit

Given data	Required Results
Temperature in Celsius	Temperature in Fahrenheit
Processing Required	Solution alternatives
Fahrenheit = (Celsius * 9/5) + 32	Define the Celsius as constants Define the Celsius as inputs

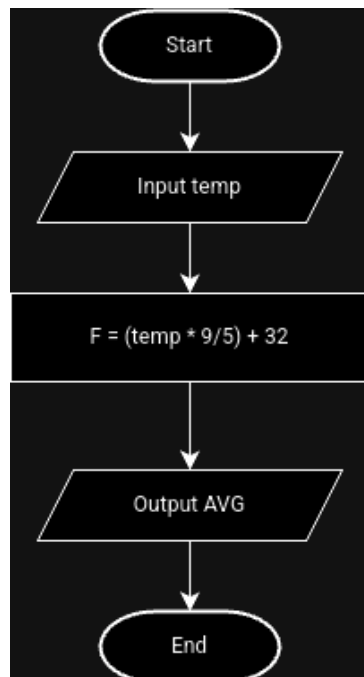
Problem #8: Sara's Step

Input	Processing	Module	Output
Monday Tuesday Wednesday Thursday Friday Saturday Sunday	1. Read steps of the week 2. Sum all steps of the week 3. Count days of the week 4. Calculate the average by dividing total steps by 7 5. Display the average daily step count 6. End	Read Calc Calc Calc Print AverageSteps	Average steps of the week

Problem #9: Flowchart of area of rectangle



Problem #10: Flowchart of celsius to Fahrenheit



Problem #11: flowchart of average of 3 numbers

