Unit 2: Assignment

Problem 1: *Create a Pseudocode, Algorithm, and Flowchart to convert temperature from degrees Celsius to degrees Fahrenheit.* ***F = (C x 9/5) - 32***

SOLUTION:

Pseudocode

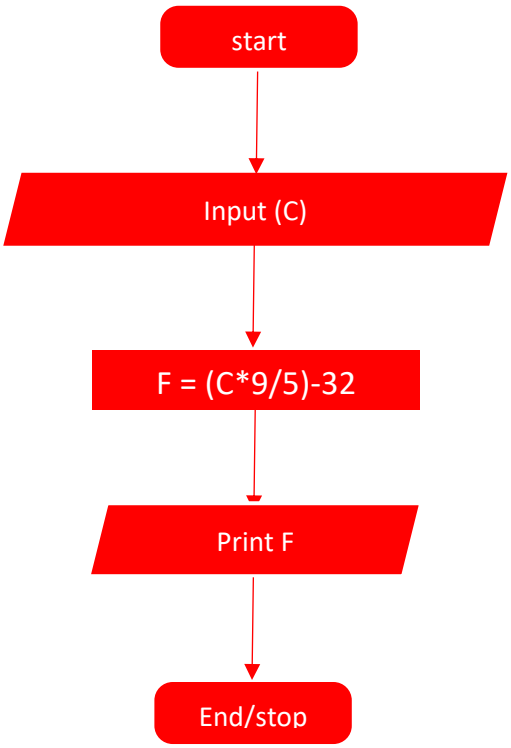
- Input the temperature value in Celsius
- Convert Celsius to Fahrenheit by multiplying the inputted value by 9/5 and then subtract 32
- Print the Fahrenheit value

Algorithm and flow chat

Start

- *Step 1: Input C*
- *Step 2: F = (C*9/5)-32*
- *Step 3: print* F

Stop



Problem 2:

Given the sides A, B, and height H; create a Pseudocode, Algorithm, and Flowchart to calculate the area of a Trapezoid **Area = ½ (A + B) x H**

Solution

Pseudocode

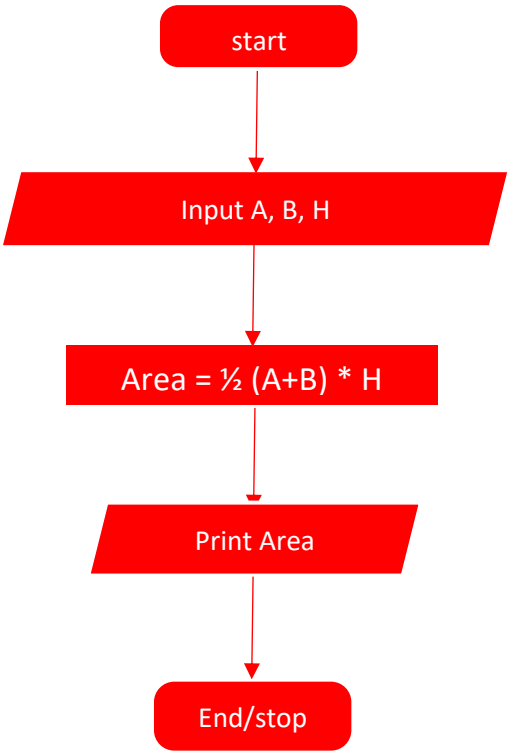
- Input the A, B, and H
- Calculate the area of the trapezoid by adding the two bases; A+B, divide by 2 and multiply by the height (H).
- Print the area

Algorithm and flow chart

Starts

- Step 1: Input A, B, H
- Step 2: Area = ½ (A+B) * H
- Step 3: Print Area

Stop



Problem 3:

Create a detailed Pseudocode, Algorithm, and Flowchart for a program that calculates how many days are left until Christmas, when given an input of the number of weeks left until Christmas.

Solution:

Pseudo Code

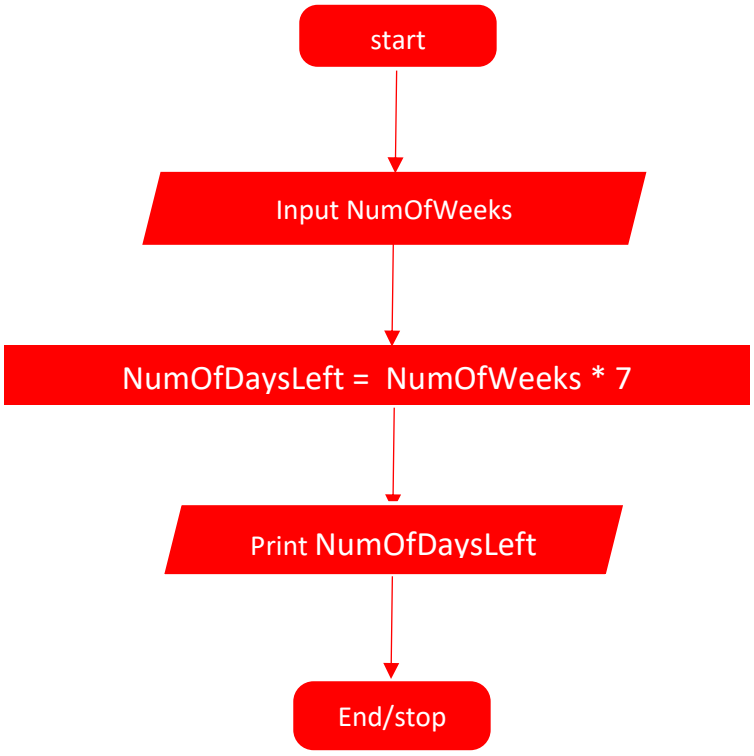
- Input the number of weeks left until Christmas
- Calculate the number of days left until Christmas by multiplying week left by 7. (NumOfDaysLeft = NumOfWeeks*7)
- Print the number of days left

Algorithm and flow chat

Start

- Step 1: input NumOfWeeks
- Step 2: NumOfDaysLeft = NumOfWeeks*7
- Step 3: print NumOfDaysLeft

Stop



Problem 4:

Create a detailed Pseudocode, Algorithm & Flowchart for a program that determines the distance travelled when given inputs of speed and time.

Solution

Pseudocode

- Prompt for the input of speed (s) in meters per second and time (t) in seconds.
- Calculate the distance in meters by multiplying the speed by the time
- Print the answer

Algorithm and flow chat

Start

- *Step 1: Input* s, t
- *Step 2:* $d = s \times t$
- *Step 3:* $print\ d$

Stop