

Laboratory Activity reflection & flowchart---> algorithm/pseudocode

[-]Activity 01

school registration:

inside a while loop

ask for user input (firstname) (surname)

if either of inputs are empty loop back from the start (ask users input again)

else if both inputs are not empty then prompt welcome firstname / surname to IDSC

stop loop

syntax: while loop , if else statement , continue/break

[-]Activity 02

age converter:

inside a while loop

ask users age

convert string age to int datatype

if age is < 1 or age is > 120 either prompt(error) loop back to start

else multiply age * 12 then print the results

stop loop

syntax: while loop , .parse , if else statement ,continue/break , || or

[-]Activity 03

grocery store calculator:

inside a loop

ask for user input (price) (quantity) then convert datatype to (price = float) (quantity=int)

if users input either of it is < 0 then loop back and ask for the input again

else if valid then calculate (multiple the price & quantity) accepts float (decimal)

stop loop

[-]Activity 04

celsius to fahrenheit converter:

ask for the celsius (value) from the user & convert datatype from string to float

then calculate celsius times 9 divided by 5 + 32 & print out the results

syntax: .parse , operators

[-]Activity 05

who are you really:

inside a loop

ask for users input (name)(age)(height) (use tryparse to convert datatypes) string to int or float

check if inputs are not valid (if its empty or an int or float datatype) then loop back to start

else inputs are valid then output their info

syntax: while loop, .IsNullOrEmpty() , bool ,\${}"

[-]Activity 06

Did You Pass:

inside a loop

ask for users input range(0-100) using tryparse convert datatype to int

validate input (if not int datatype using bool to identify or if the grade is below 0 or above 100) then thats invalid & loop back to start

break out the loop then determine int grades category (ABCDF) using if else if else statement range (A = 90-100/B = 80-89/C = 70-79/D = 60-69/F = <60)

then when identified output letter grade

syntax: while loop, .tryparse(, out var) , logical operator , if else if else statement

[-]Activity 07



simple calculator:

inside while loop

ask for users input (no.1)(no.2) also ask for the operator (+ * - /) num1/num2 convert datatype from string to float

if else if else statement: each operator (get results out from the calculations)

for division / by 0 is not allowed so nested loop if either of the input is 0 it loops back to start ask user input again

else continue / operation

lastly output the results that you got from the statements(operations) then break loop

syntax: operators, .tryparse ,if else if else statement , nested statement

[-]Activity 08

convert me:

inside a loop

ask for users input (random number)

if its a valid integer it will be converted to int then be calculated added to 10 then output results then break loop

else invalid input

syntax:while loop ,operators, .tryparse ,if else statement

[-]Activity09

even/odd:

inside loop

user input (integer) number which is still a string

if its an integer it gets converted enters a nested statement

then if its an even number (prompt:its even) if not then else (prompt:its odd) then break loop

else invalid input

syntax: nested statement , .tryparse , operators , if else statement

[-]Activity10

validate my info:

inside while loop

users input (name)(age)(email)

check if name input is empty if it is empty so its false

check if age is not a valid integer datatype and also within the range to 1-120 its false

check email if its empty and also does not contain @ in his/her email its false

if all fields are valid or true then output "all fields are valid" then break loop if not prompt user try again

[-]Activity 11

PIN Code Retry System:

inside while loop user has only 3 attempts allowed

ask to enter the four digit password if correct then access granted and if not then

increment attempt 1 until reached 3 limit if still not correct then deny access

[-]Activity 12

Even or Odd Number Checker:

ask for an integer

tryparse or change datatype from string to int if successfully converted then proceed to nested statement to check if its an even number or odd

else if not converted then its an invalid input

[-]Activity 13

Name Case Formatter:

ask for users name



if user input is not empty also all are letters then format the name to have the first letter uppercase and the rest lowercase
start of making the first index 0 of the string touppercase then substring specifying (starting from 1 to length make it lowercase) then output results
else if user input is empty and not all char is a letter then invalid input

[~]Activity 14

Age Group Categorizer:

user input (age)

if the age is an int datatype and also ≥ 0 then categorize age
ranges nested (0-12 Child/13-19 Teen/20-59 Adult/60+ Senior)
else invalid input

[~]Activity 15

Letter Grade Calculator

ask for users grade range (0-100)

if its an integer then proceed to nested statement categorizing

if its grade < 0 or > 100 thats invalid

range using nested (90-100: A/ 80-89: B/70-79: C/60-69: D/ <60 : F)

else invalid input

[~]Activity 16

Simple Calculator with Switch:

ask for users input for num1/2 then ask for the operator too

using tryparse validate num1/2 if input is a float or not or can be converted to float if not then invalid input

but if its valid enter the switch statement operator(+, -, *, /)

specifically / case if either of both numbers are zero prompt user that's invalid or an error

on default user may have inputted an invalid operator

[~]Activity 17

Multiplication Table Printer

ask for user input ranges only from 1-10

then validate user input if its an integer and on the right range 1-10

use for loop to print out the table

iterate starting from 1-10 increment then output usersinput(number) * times (i)

incremented by for loop = results of the calculation

else if did not follow requirement above then invalid input

[~]Activity 18

Countdown Timer:

ask user to enter a positive number to start countdown

then validate input it must be an integer and greater than 0

if requirements are met then start countdown using while loop (dont stop until it reaches 0)

decrement the number which is the users input

else if not met then invalid input

[~]Activity 19 Secret Word Guesser

inside do while loop

do check it first

ask user to guess the secret word "open"

if the users input is not equal to the secret word using ordinalignorecase its no case insensitive which means as long as it is the word that that is equal too lower/upper



allowed

if matched correct / if not try again

[-]Activity 20 Password Policy Validator

ask for the users password

for each character password string must have a digit / an uppercase

password length must be 8 char above

if length is above 8 and has a number & an uppercase then its a valid password

must return all true if one returns false then its invalid





Edit with WPS Office