

ALGO/PSEUDOCODE :: LABORATORY ACTIVITY 3

act01

make a list to hold 5 age stuff

ask user 5 times

if age not 10-99, ask again (loop til ok)

once all 5 ok, print them all

then check which ones are 13-19, count that

act02

ask user fav fruit 5 times

store it in a string array

loop through it while asking input

convert each to lowercase before storing

after that another loop go thru the array

if any of the item is "apple" (already lowercase)

then count++

after loop show how many apples got typed

done

act03

input 5 scores

store em somewhere like a list or array

loop through them 1 by 1

use if else to check grade range

turn % score into letter (A B C D F)

switch that letter give some kinda feedback for each

print grade + feedback

act04

ask user 3x input name

put em inside a string array

loop through the array

get first char → index 0

get last char → name.length - 1

convert first + last to uppercase

print orig name, first char, last char, upper ver of both

done

act05

ask user to input 10 nums put it in an array

loop from 0 to 9 get each value

check each num using %

if even counter++

else odd counter++

also check if %5 == 0 then another counter++

after loop done show all the counters

act06

make an array for 5 celsius temp

loop 5x ask user for temp store in array

after that make another loop to go through the array

convert each one to fahrenheit

check temp category (cold <15) (warm 15-30) (hot >30)

print out the celsius, fahrenheit, and category

done

act07

make 3 candidates fixed names up front

set vote counter for each to 0

make array for 10 votes

loop thru 10 times ask for vote

make input lowercase or whatever just same format

check if matches any of the 3 names if matched add to that vote count

if not matched ignore or skip

after loop done

print total vote counts for each one

compare all 3 vote counters get which is max

print the winner

act08

ask user input 4 passwords

store em in array string type

loop over each pass one by one

check length if < 6 not valid

check if got at least 1 uppercase char if none also not valid

if both checks pass = valid

else = invalid

print result for each pass if valid/invalid

act09

ask 3 nums from user

convert them all into int type

store inside an array

loop through each number in array

inside that, loop from 1 to 10

multiply outer num * inner num

print results

done

act10

input 6 heights

store in array

loop through array

each height check

if less than 150 = short

else if between 150–170 = avg

else more than 170 = tall

track how many are short, avg, tall

after loop print totals of each

act11

loop 10 times

ask name and age

check if age is invalid (<0 or >120) then loop again (same index don't move to next)

else check if age ≥ 18

if not valid to vote then skip categorization just say not eligible

if valid then check which category they belong

(18-30 young, 31-59 mid, 60+ senior)

store their name + age + category

after all 10 display them one by one with info

act12

make float array size 12 (for 12 months sales)

also make string array of month names

loop 12 times ask user input for each month (parse to float)

track which one is highest and lowest (store index not just value)

add all values for avg calc later

after loop ends get $\text{avg} = \text{total} / 12$

output highest month name from index, lowest month name from index, avg

act13

activity 13 email thing

loop 5 times

ask for email input

check if it got @ and ends in .com or .edu

if not = invalid

if valid then chop it up, get the part before the @

store or just print the username part

repeat til 5 done

act14

ask grades 3 per student for 5 students

loop for 5 students

nested loop for 3 grades

check each if not valid (less than 0 or more than 100)

retry until valid

store grades, total up all 3

store name + total

after all 5 are done

sort total scores descending

assign rank based on sorted order

show each student: name, total, rank

act15

algo/pseudocode (messy ver)

make arr size 20 for lucky numbers

have winning nums like 5 or whatever

loop 20x ask users lucky num

if num <1 or >99 nope back to input

if valid add to arr

after inputs done

loop arr check if usernum is in winning nums

if found then say congrats

else just nothing

act16

make a list 5 spots for patient sympt

loop for 5x

ask input (symptom)

make it lowercase

switch or if else style

if "fever" or "cough" → General Medicine

if "injury" or "burn" → Emergency

if anything else → Specialist

print assignment after each input

act17

ask user to enter 8 whole numbers one by one

store each into array of int

loop through array

check if number is prime → use counter or divide trick

convert number to binary → use Convert.ToString(num, 2)

check if even or odd → num % 2

show all: prime or not / binary ver / even or odd

done

act18

ask for 5 passwords store them in string array

loop through the array

check each pass

if length is less than 8 = invalid

if missing upper or number or symbol = weak

if has all = strong

nested if else for each check

symbols = check if it contains any from !@\$% etc

for each pass do the thing then print what it is

done when 5 are checked

act19

inside main

make 2 arrays 1 for names of category (5 of em) other for their budget values

make a loop ask user to input values per category and convert em to float

sum all the entered values

compare if total > income like 25000

if its over then find which one has highest expense by looping thru the budget array

show total budget first

if its over then show overbudget and tell which one to cut (biggest one)

if not overbudget then say all good or smthin

act20

ask user to enter 5 words

store them in a string array

loop each word

reverse the word using loop or whatever method

compare original word to reversed

if they match then it's a palindrome

if not then not a palindrome

output the result for each word

done