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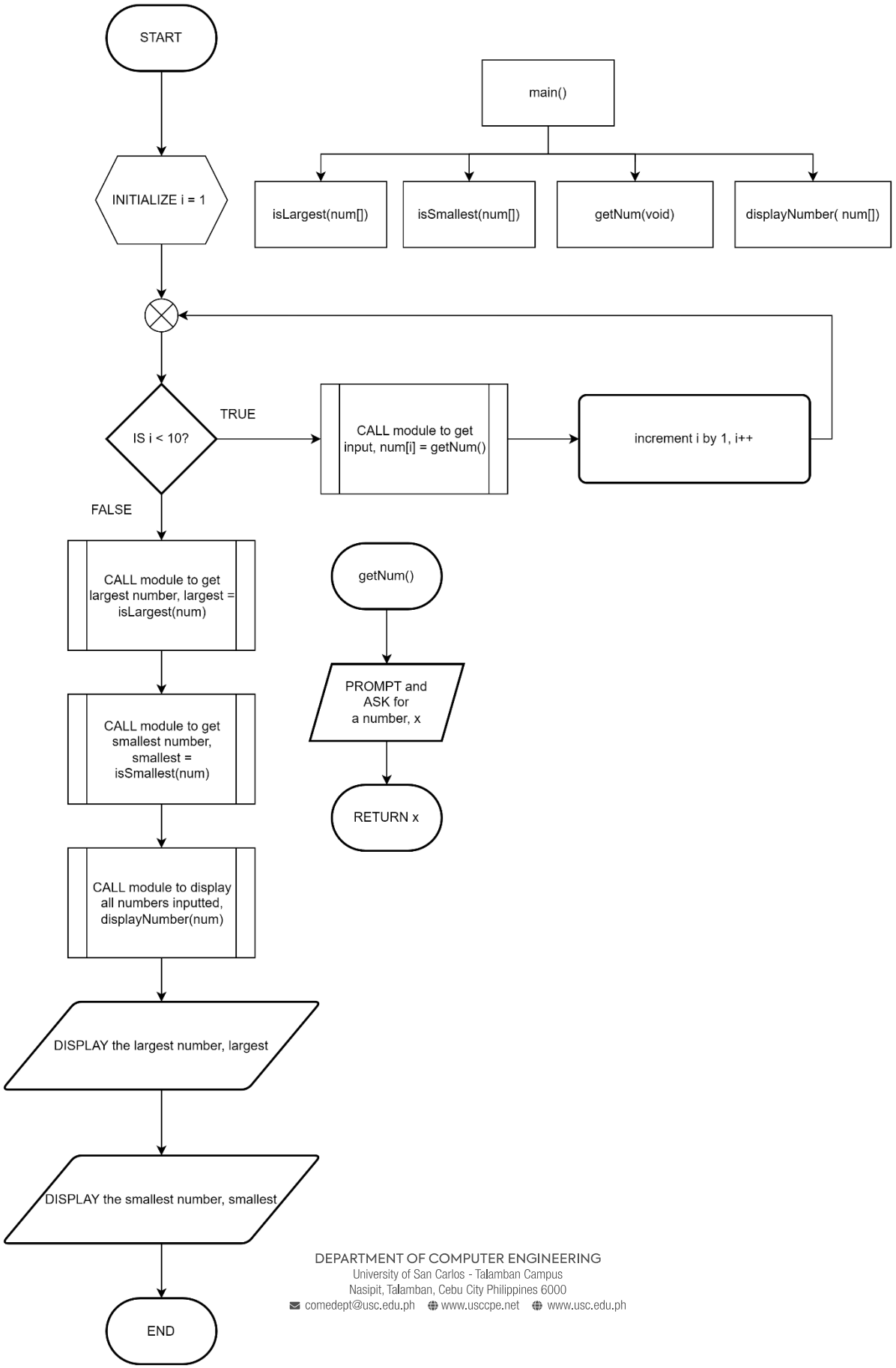
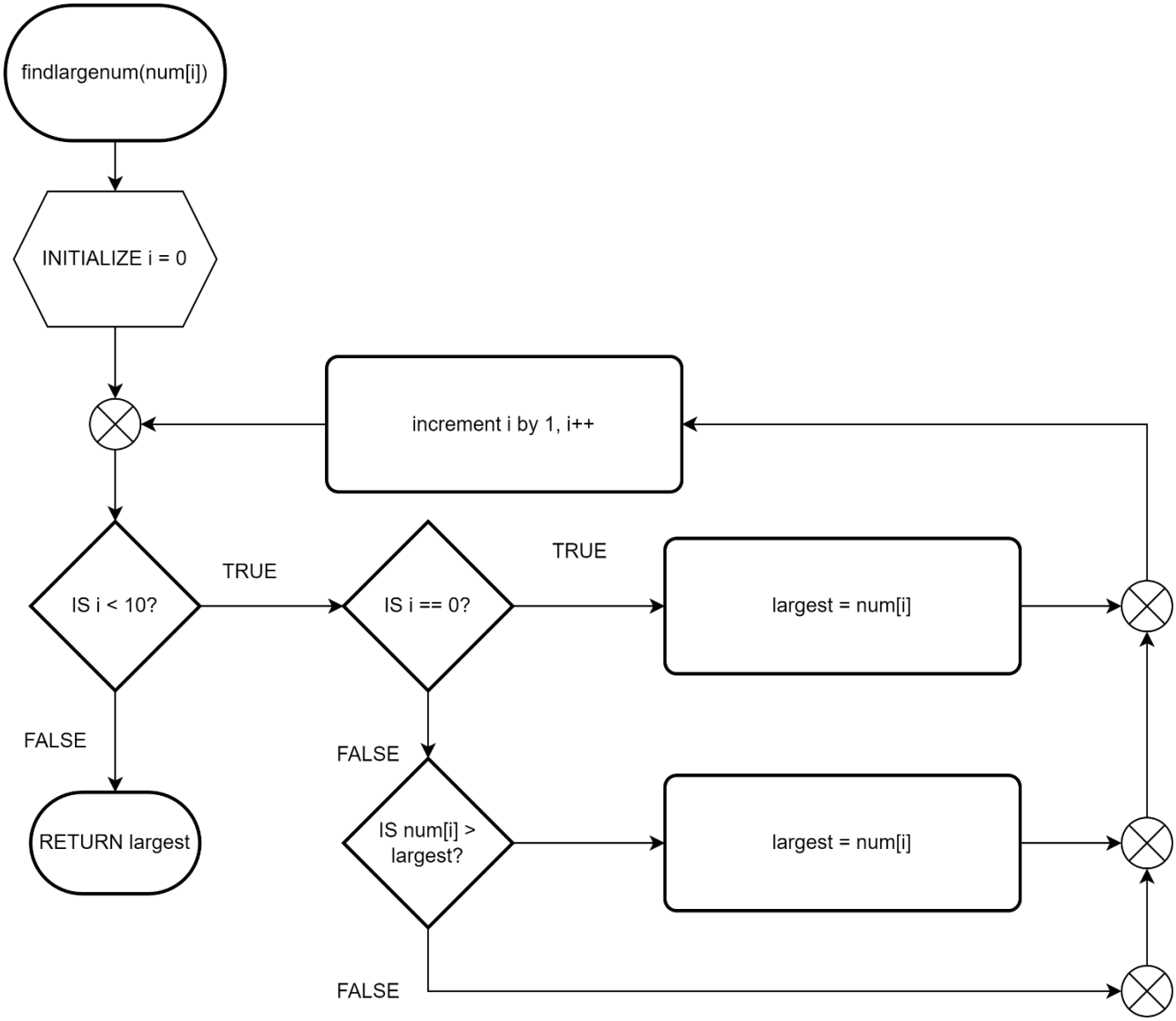
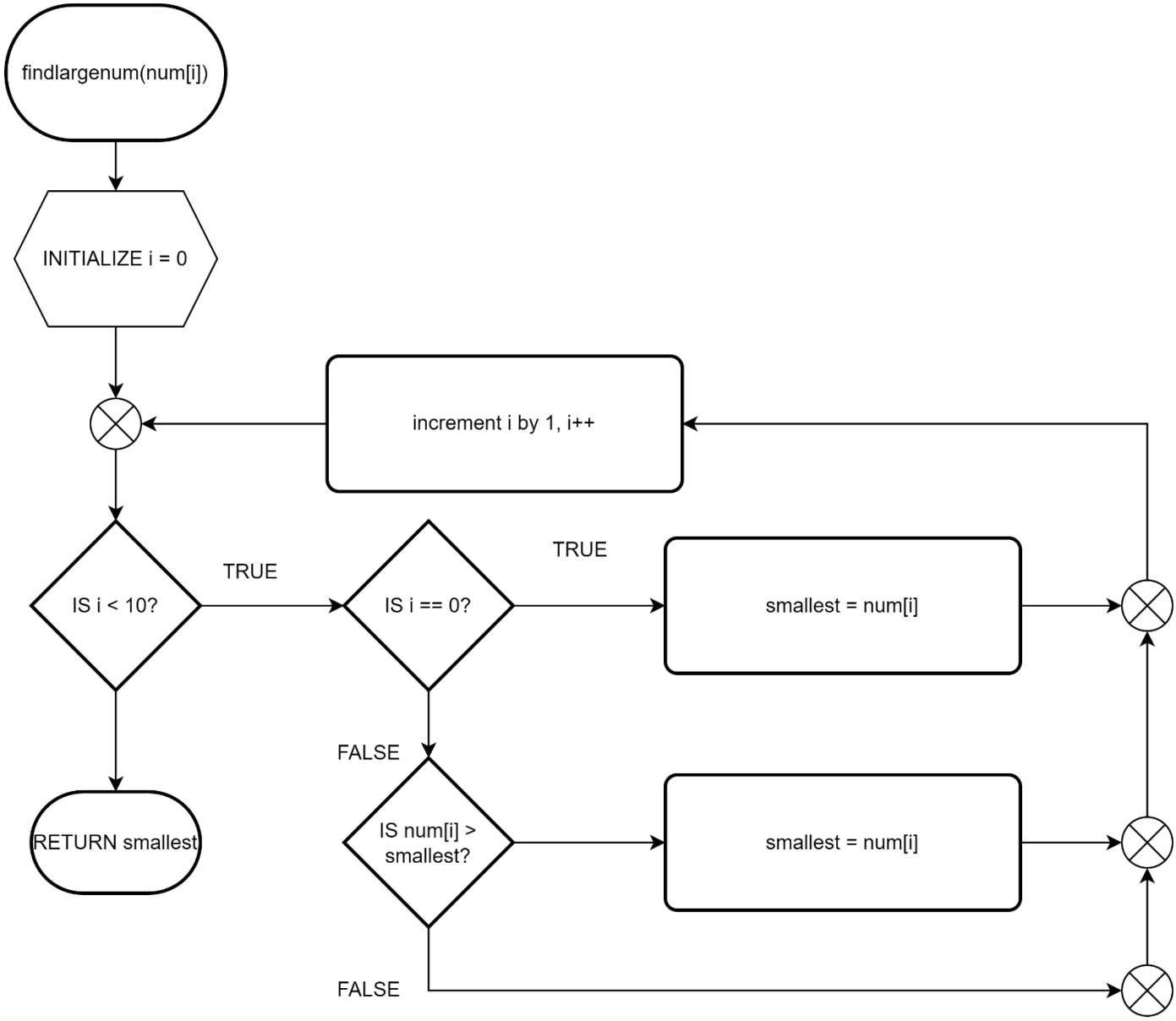
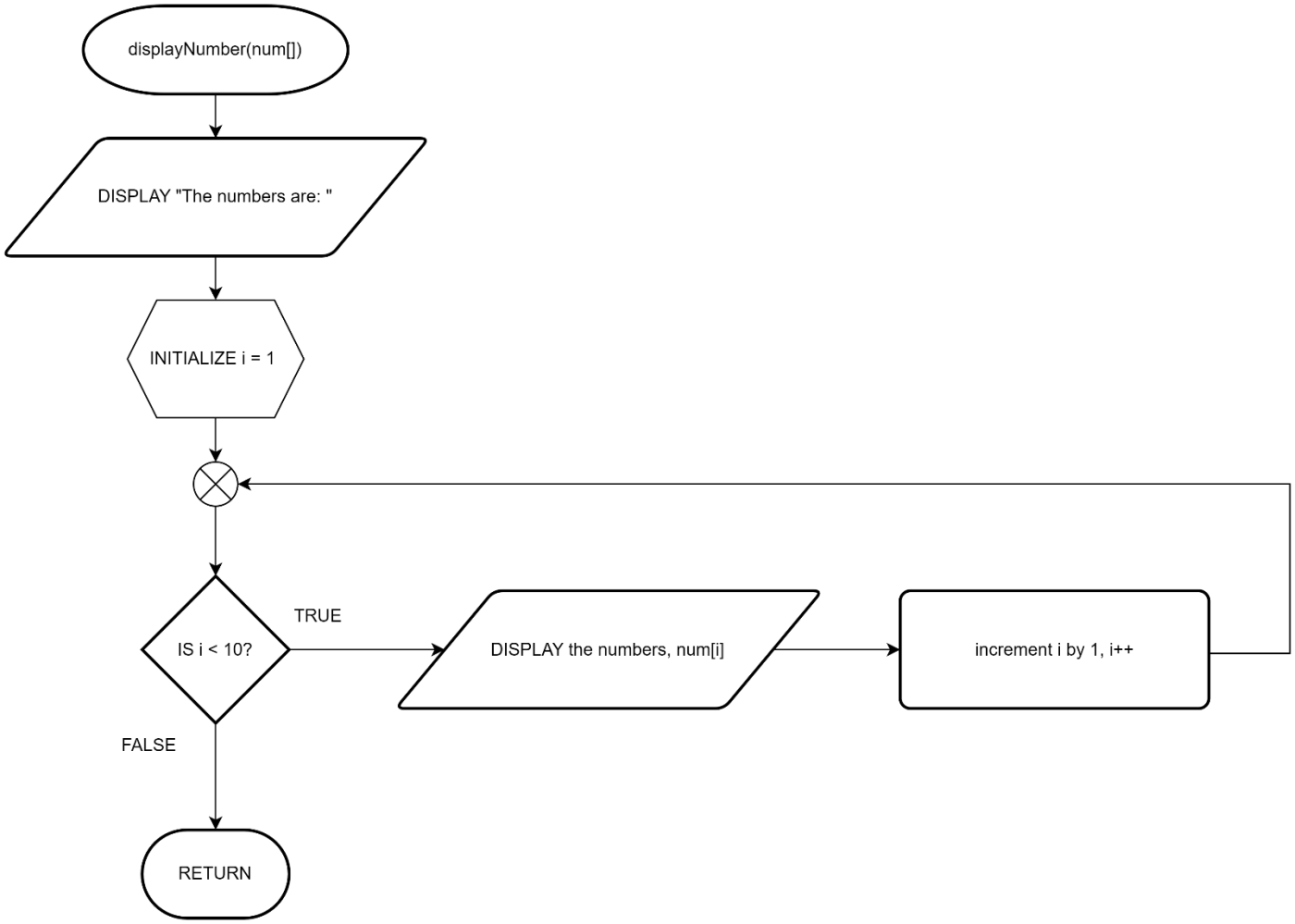
AlgoExercise 6.1

1. Largest and Smallest.
   A program that allows a user to enter 10 numbers, then displays all of the numbers, the largest number, and the smallest.

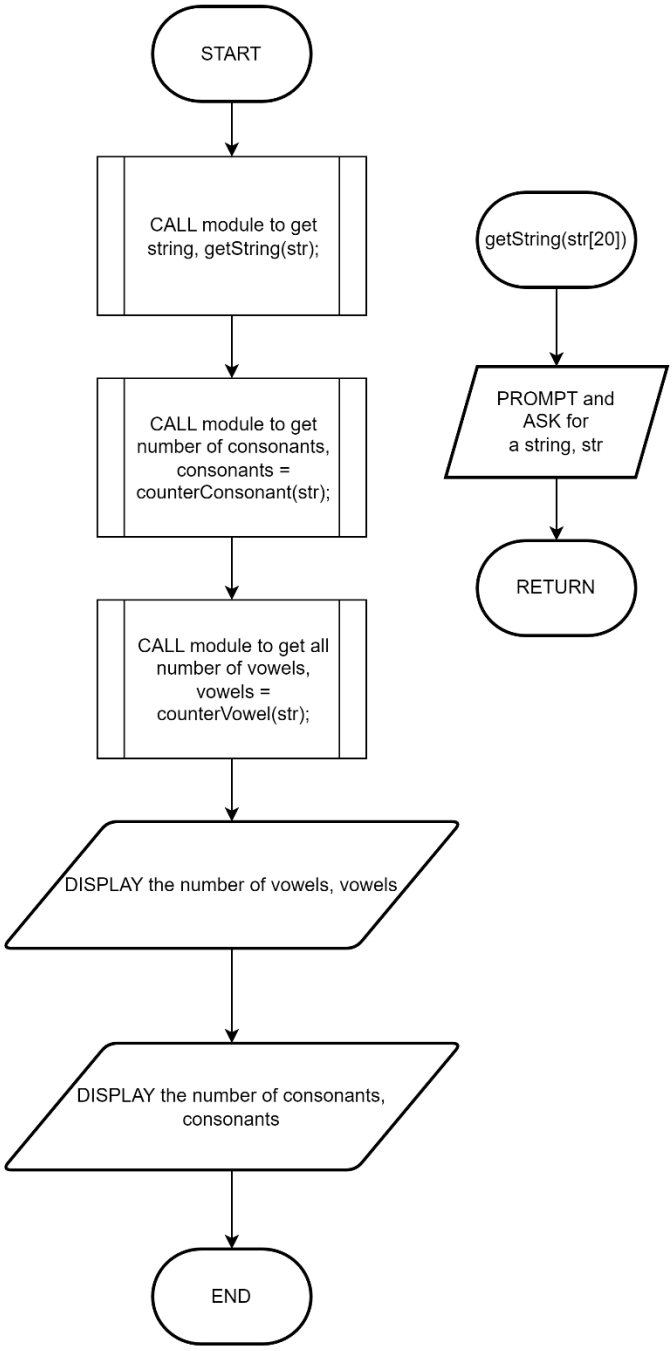

START
main()
INITIALIZE i = 1
isLargest(num[])
isSmallest(num[])
getNum(void)
displayNumber(num[])
IS i < 10?
TRUE
CALL module to get input, num[i] = getNum()
increment i by 1, i++
FALSE
CALL module to get largest number, largest = isLargest(num)
CALL module to get smallest number, smallest = isSmallest(num)
CALL module to display all numbers inputted, displayNumber(num)
DISPLAY the largest number, largest
DISPLAY the smallest number, smallest
END
getNum()
PROMPT and ASK for a number, x
RETURN x

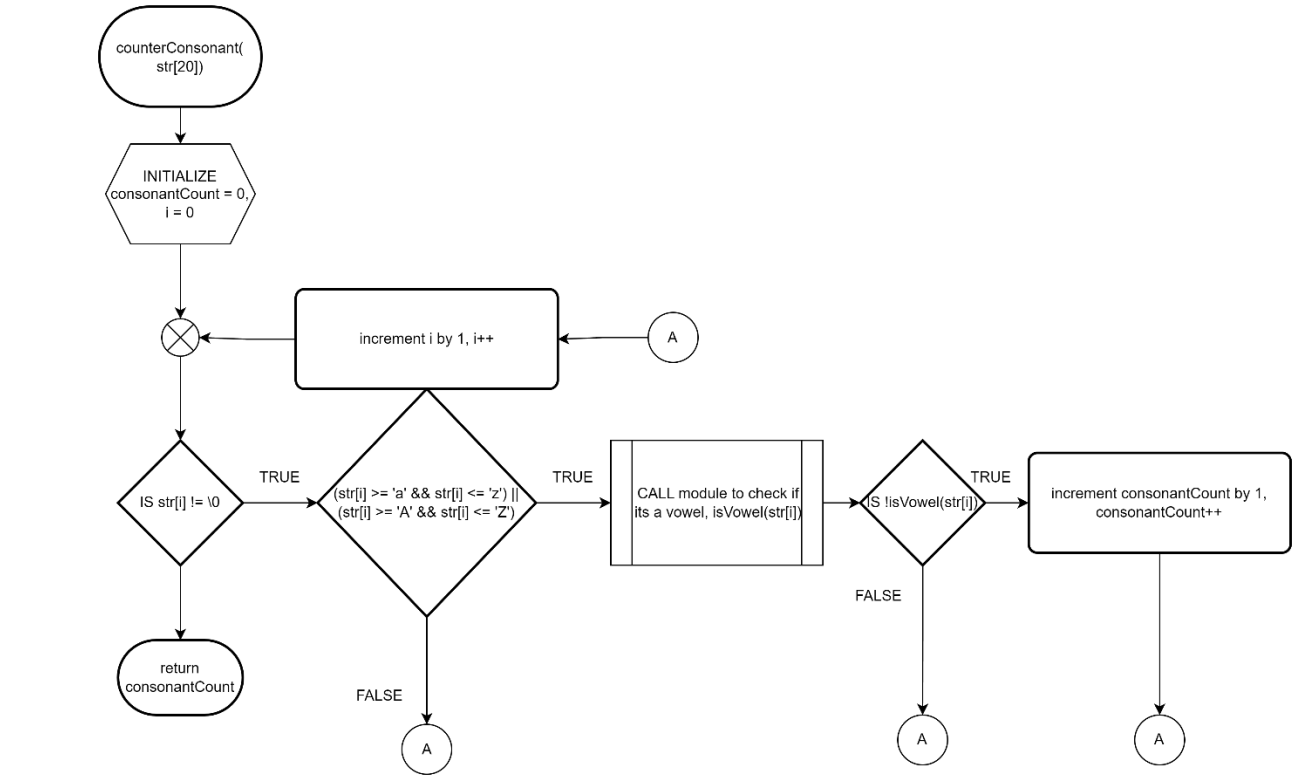

findlargenum(num[i])
INITIALIZE i = 0
increment i by 1, i++
IS i < 10?
TRUE
IS i == 0?
TRUE
largest = num[i]
FALSE
RETURN largest
FALSE
IS num[i] > largest?
largest = num[i]
FALSE

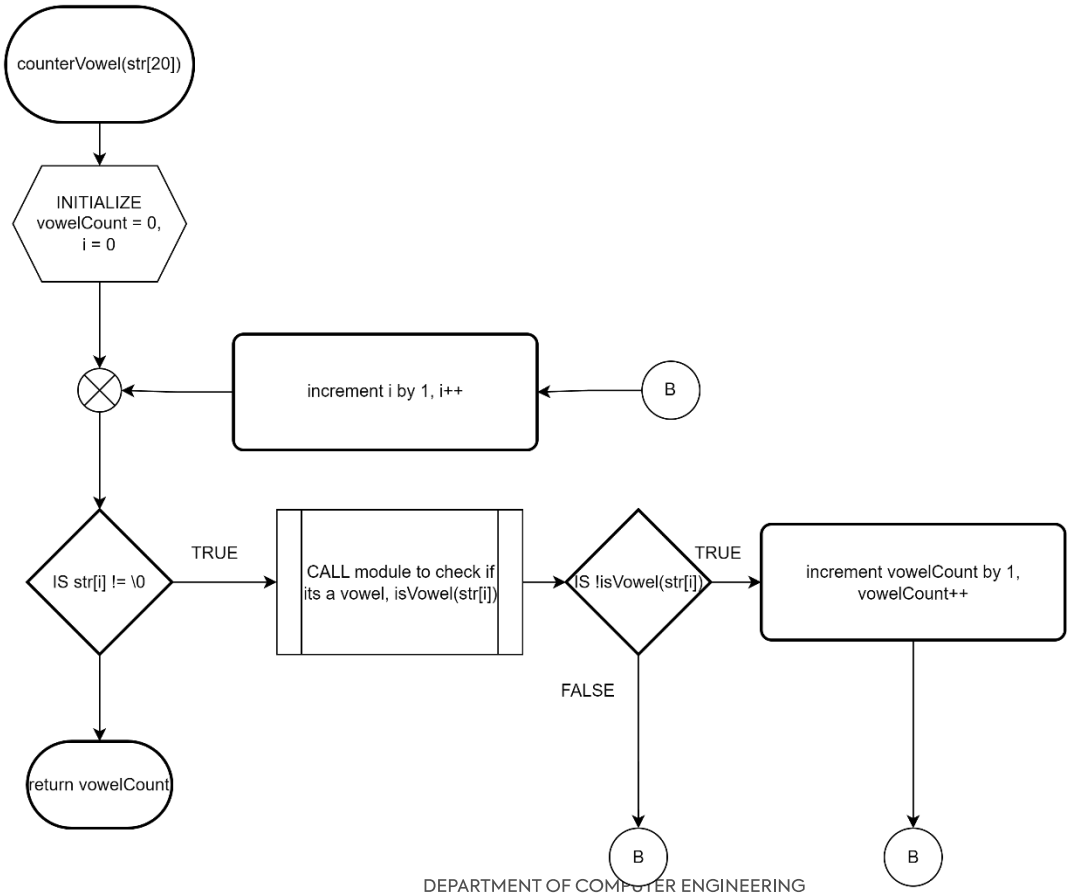

findlargenum(num[i])
INITIALIZE i = 0
increment i by 1, i++
IS i < 10?
TRUE
IS i == 0?
TRUE
smallest = num[i]
FALSE
RETURN smallest
IS num[i] > smallest?
smallest = num[i]
FALSE

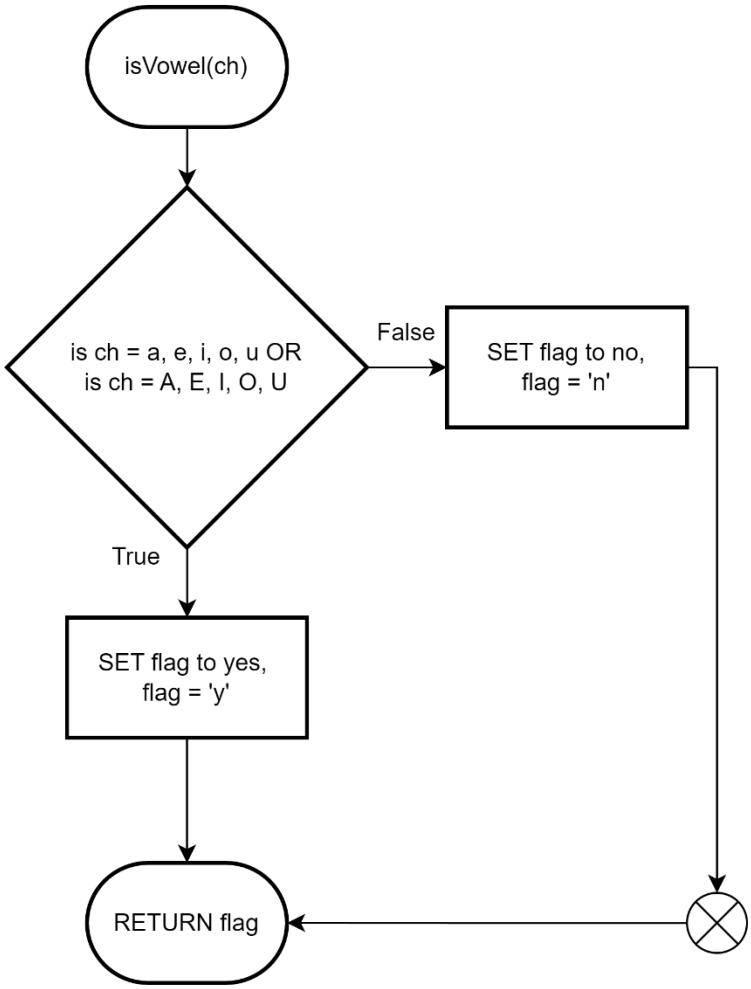

displayNumber(num[])
DISPLAY "The numbers are: "
INITIALIZE i = 1
IS i < 10?
TRUE
DISPLAY the numbers, num[i]
increment i by 1, i++
FALSE
RETURN

2. Vowels and Consonants in String.
   A program that asks a string and determine how many vowels and consonants.

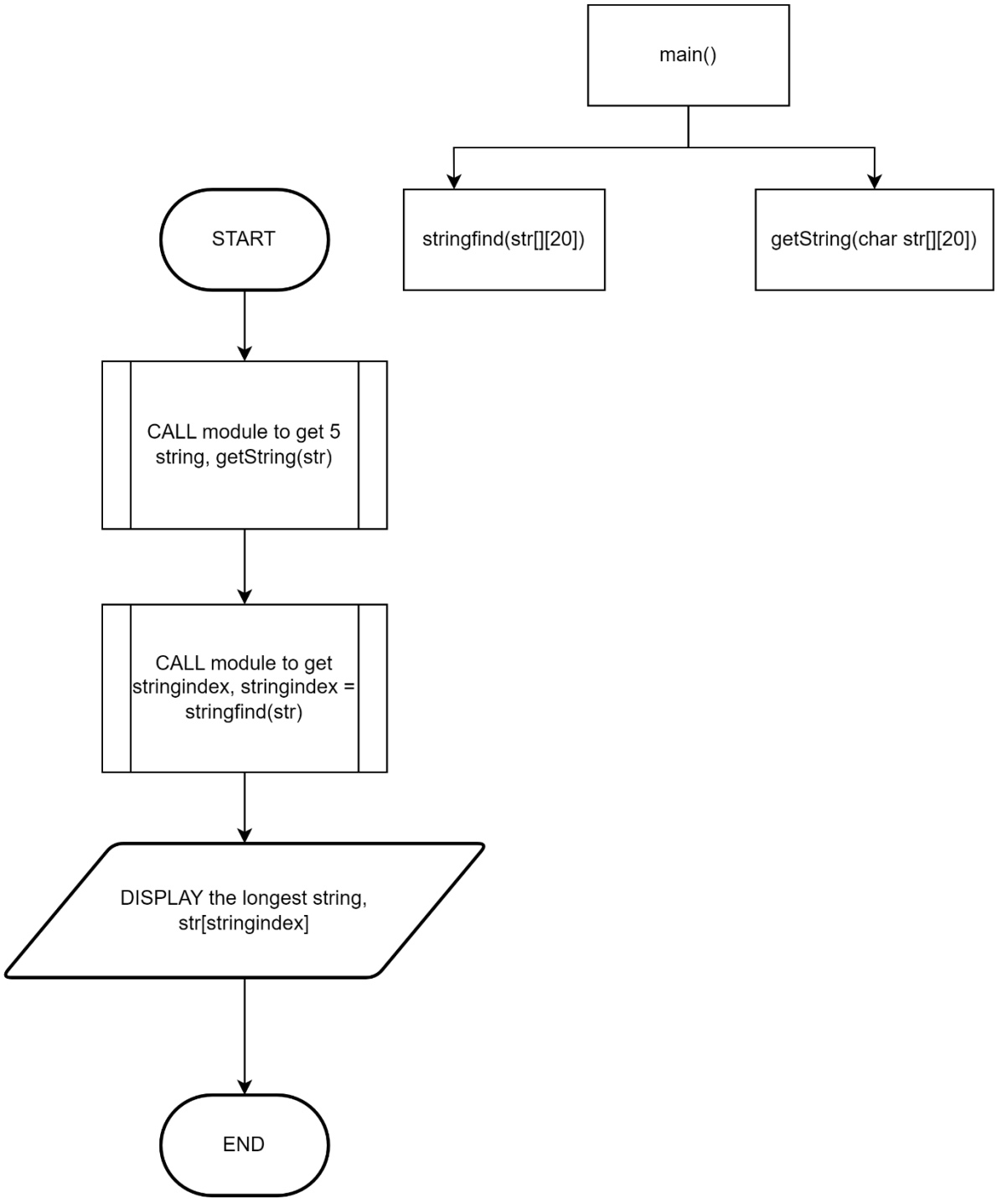


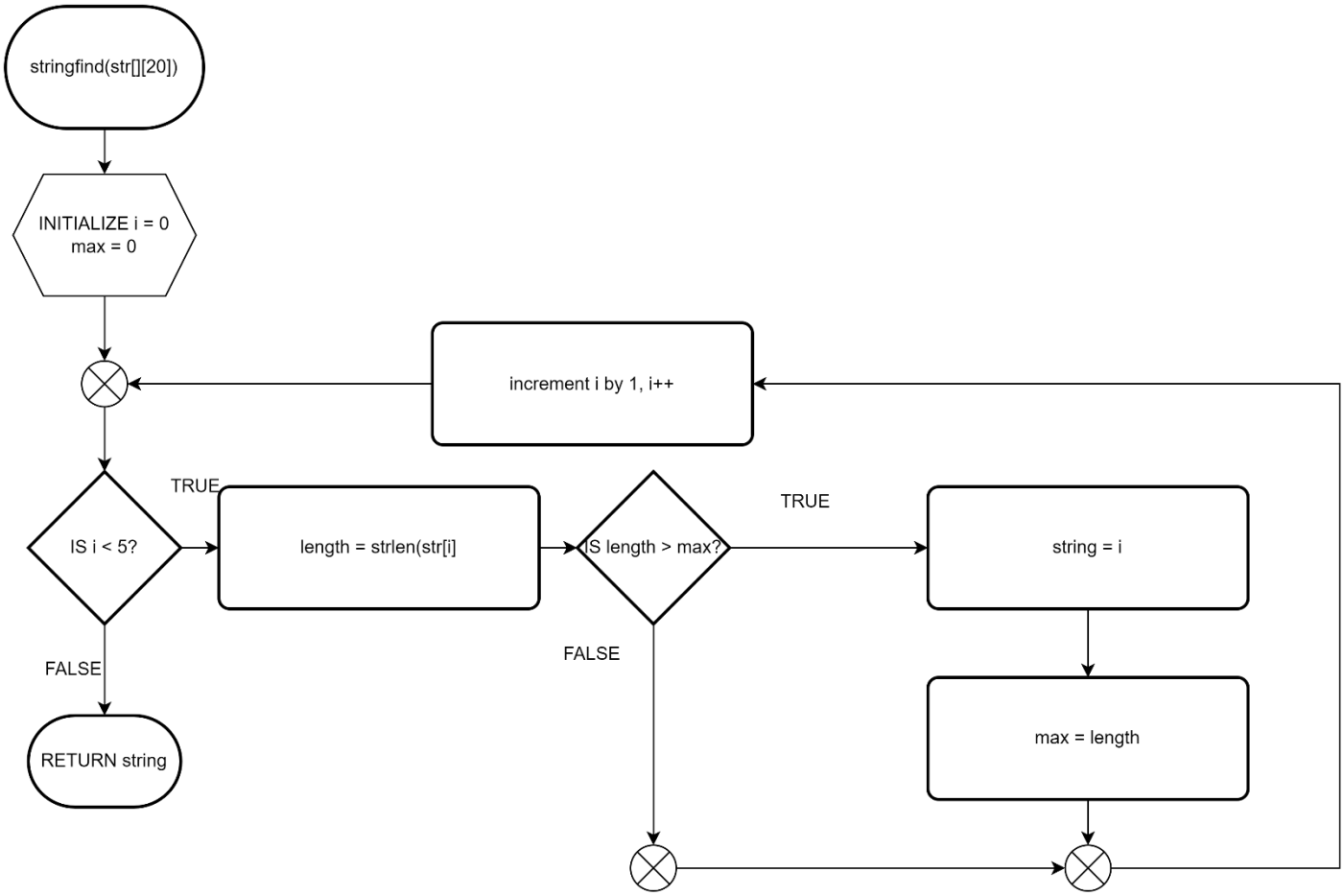

counterConsonant(str[20])
INITIALIZE consonantCount = 0, i = 0
increment i by 1, i++
A
IS str[i] != \0
TRUE
(str[i] >= 'a' && str[i] <= 'z') || (str[i] >= 'A' && str[i] <= 'Z')
TRUE
CALL module to check if its a vowel, isVowel(str[i])
IS !isVowel(str[i])
TRUE
increment consonantCount by 1, consonantCount++
FALSE
return consonantCount
FALSE
A
A
A

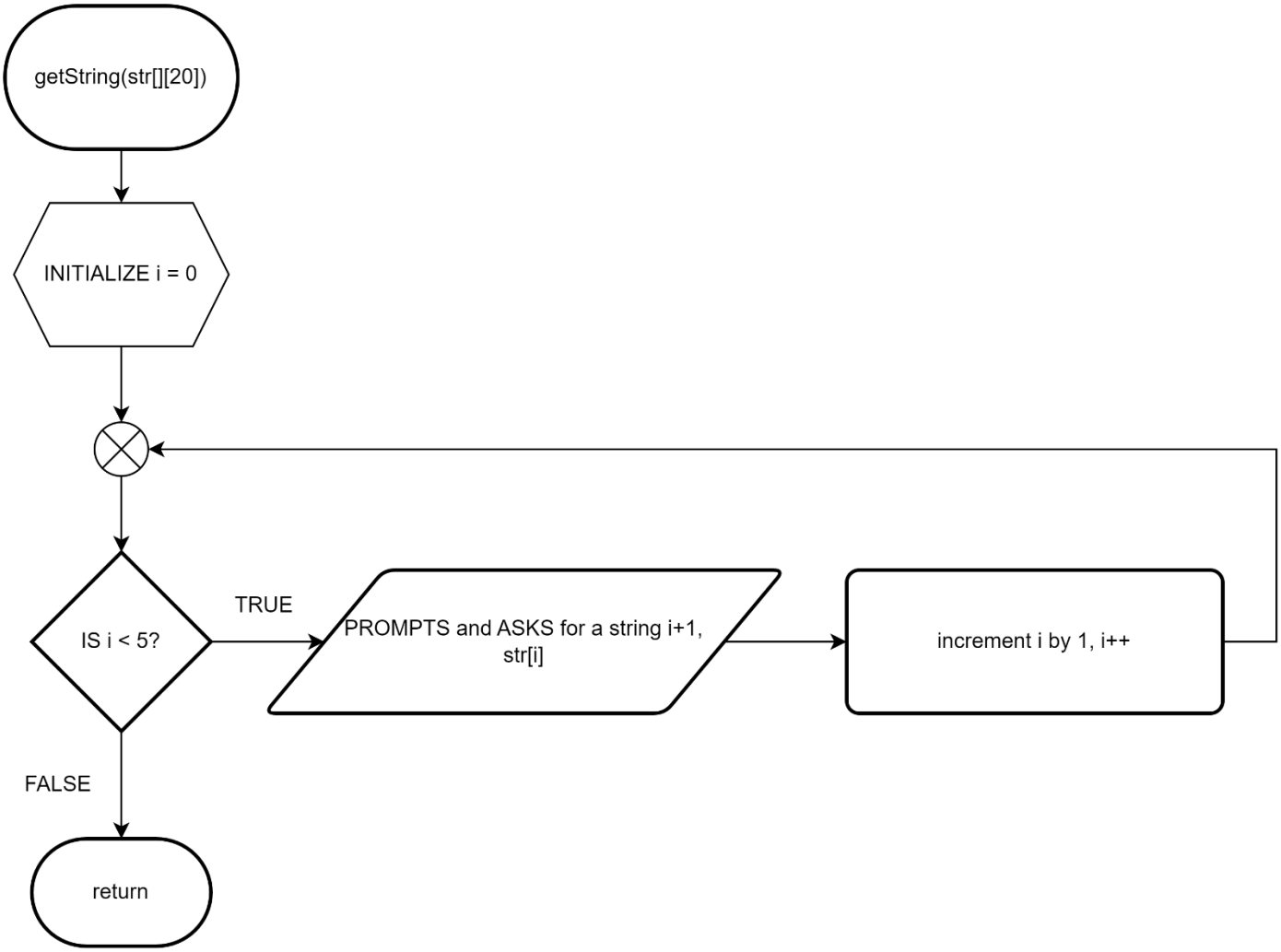

counterVowel(str[20])
INITIALIZE vowelCount = 0, i = 0
increment i by 1, i++
B
IS str[i] != \0
TRUE
CALL module to check if its a vowel, isVowel(str[i])
IS !isVowel(str[i])
TRUE
increment vowelCount by 1, vowelCount++
FALSE
return vowelCount
B
B


isVowel(ch)
is ch = a, e, i, o, u OR
is ch = A, E, I, O, U
False
SET flag to no,
flag = 'n'
True
SET flag to yes,
flag = 'y'
RETURN flag

3. Longest String.
   A program that asks for 5 strings and display the longest string.




stringfind(str[][20])
INITIALIZE i = 0
max = 0
increment i by 1, i++
IS i < 5?
TRUE
length = strlen(str[i]
IS length > max?
TRUE
string = i
FALSE
FALSE
max = length
RETURN string


getString(str[][20])
INITIALIZE i = 0
IS i < 5?
TRUE
PROMPTS and ASKS for a string i+1, str[i]
increment i by 1, i++
FALSE
return