Logic Chapter 12

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Short Answer

2. If the following pseudocode were an actual program, what would it display?

Declare String greeting = “Happy”

Insert(greeting, 0 , “Birthday“)

Display greeting

**The output would be BirthdayHappy**

3. If the following pseudocode were an actual program, what would it display?

Declare String str = “Yada yada yada”

delete(str, 4, 9)

Display str

**It would display Yada yada**

4. If the following pseudocode were an actual program, what would it display?

Declare String str = “AaBbCcDd”

Declare Integer index

For Index = 0 To length(str) - 1

If isLower(str[index]) Then

Set str[index] = “-”

End If

End For

Display str

**A-B-C-D- would be displayed**

Algorithm Workbench

1. Design an algorithm that counts the number of digits that appear in the string variable str

Initialize digit\_count to 0

For each character to str:

If the character is a digit:

Increment digit\_count by 1

Return digit\_count

5. Design an algorithm that converts each occurrence of the character “t” in the string variable str to uppercase

Initialize new\_str to “”

For each character in str

If the character is ‘t’:

Add ‘T’ to new\_str

Else:

Add the character to new\_str

Return new\_str

6. Design an algorithm that replaces each occurence of the character “x” in the string variable str with a space.

Initialize new\_str to “”

For each character in str

If the character is “x”:

Add “ “ to new\_str

Else:

Add the character to new\_str

Debugging Exercise

3. Why doesn’t the following pseudocode perform as indicated in the comments?

// This program counts the characters in a string.

Declare String word

Declare Integer index

Declare Integer letters = 0

// Get the input from the user.

Display “Enter a word.”

Input word

// Count the characters in the string.

For index = 0 To length(word)

Set count = count + 1

End for

Display “That word contains ", count, “ characters.”

The code fails due to it having an letters in place of count since it was initialized initiall and it iterates one extra time since the loops range is set to length(word) and not length(word) -1.