



DATA STRUCTURES LESSON

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Additional materials may be found at www.ncyte.net



DATA STRUCTURES

CODE SEGMENTS AND OUTPUT ACTIVITY TWO

Read each code segment and write the output. Write ERROR if the code segment results with an error.

CODE SEGMENT 1

```
nums ← [5, 8, -2, 10, 18]
FOR EACH number IN nums {
    DISPLAY(number + 2)
}
```

Code Segment 1 Output (write answer below)

CODE SEGMENT 2

```
nums ← [5, 8, -2, 10, 18]
total ← 0
FOR EACH number IN nums {
    total ← total + number
}
DISPLAY(total)
```

Code Segment 2 Output (write answer below)



CODE SEGMENT 3

```
nums ← [2, 6, 5, 7, 11, 1]
count ← 0
FOR EACH number IN nums {
    IF (number > 5) {
count ← count + 1
    }
}
DISPLAY(count)
```

Code Segment 3 Output (write answer below)

CODE SEGMENT 4

```
words ← ["dog", "cat", "apple", "tree", "pin", "pencil"]
total ← 0
FOR EACH word IN words {
    total ← total + LENGTHofSTRING(word)
}
DISPLAY (total)
```

Code Segment 4 Output (write answer below)



CODE SEGMENT 5

```
words ← ["dog", "cat", "apple", "tree", "pin", "pencil"]
count ← 0
FOR EACH word IN words {
    IF (LENGTHofSTRING(word) > 3) {
        count ← count + 1
    }
}
DISPLAY (count)
```

Code Segment 5 Output (write answer below)

CODE SEGMENT 6

```
words ← ["dog", "cat", "apple", "tree", "pin", "pencil"]
FOR EACH word IN words {
    DISPLAY(word[2])
}
}
```

Code Segment 6 Output (write answer below)



CODE SEGMENT 7

```
words ← ["dog", "cat", "apple", "tree", "pin", "pencil"]
FOR EACH word IN words {
    IF (word[1] = "d") {
        DISPLAY("YES")
    }
    ELSE {
        DISPLAY("NO")
    }
}
```

Code Segment 7 (write answer below)

CODE SEGMENT 8

```
nums1 ← [2, 6, 8, 12, -4, 7]
nums2 ← [3, 8, 10, 2, 0, 5]
index ← 1
REPEAT ( LENGTH(nums1) ) TIMES {
    IF ( nums1[index] > nums2[index] ) {
        DISPLAY("GREATER")
    }
    ELSE {
        DISPLAY("LESS")
    }
    index ← index + 1
}
```



Code Segment 8 (write answer below)

CODE SEGMENT 9

What would be accomplished by running the following code segment?

```
nums1 ← [2, 6, 8, 12, -4, 7]
nums2 ← [3, 8, 10, 2, 0, 5]
count ← 0
FOR EACH num IN nums1 {
  FOR EACH number IN nums2 {
    IF ( num = number ) {
      count ← count + 1
    }
  }
}
DISPLAY(count)
```

Code Segment 9 (write answer below)

CODE SEGMENT 10

What would be accomplished by running the following code segment?

```
names ← ["Jim", "Sam", "Mark", "Tim", "Dan"]
DISPLAY("Input a name.")
seek ← INPUT()

FOR EACH name IN names {
```



```
    IF ( name = seek ) {  
        DISPLAY("Found!")  
    }  
}
```

CODE SEGMENT 10 (write answer below)

CODE SEGMENT 11

What would the output be if the user enters "Tim" when the following code segment is run?

```
names ← ["Jim", "Sam", "Mark", "Tim", "Dan"]  
password ← ["c&t", "$it", "#hi", "B@t", "H!t"]  
DISPLAY("Input a name.")  
seek ← INPUT()  
index ← 0  
FOR EACH name IN names {  
    index ← index + 1  
    IF ( name = seek ) {  
        found ← index  
    }  
}  
DISPLAY( password[found] )
```

CODE SEGMENT 11 (write answer below)



WHAT TO SUBMIT

Students should turn in their paper for grading and/or verification of completion.

