CT 100

Programming 2
Linear Search
Initialize List
Initialize Parts
Delete Items from List
Linear Search

when space key pressed
ask Enter a number between 1 and 20, and wait
set j to 1
repeat until j > 10 or item j of nums = answer
  set j to j + 1
if j > 10
  say join answer is not in the list.
else
  say join answer join is in position j
Linear Search Parts

when space key pressed
ask Enter a number between 1 and 20. and wait
set j to 1
Linear Search Parts
Repeat Condition Parts

- \( j > 10 \)
- \( \text{or} \)
- \( \text{item } j \text{ of } \text{nums} \)
- \( \text{answer} \)
Linear Search Parts

if \( j > 10 \)

say join answer is not in the list.

else

say join answer join is in position \( j \)
If Parts

```
if j > 10
else
say Hello!
join answer is not in the list.
say Hello!
join answer world
join is in position j
```
Homework 3

• Homework 3 has 3 parts. Save each part in a separate file.
Homework 3: Part 1

• Implement the three code segments (initialize list, delete items and linear search) shown on the previous slides.
Homework 3: Part 2

- Modify the code segments you implemented in part one to do the following
  - Initialize the list so it contains 20 random numbers between 1 and 40
  - The delete code should remove all 20 items from the list
  - Before you implement part 2 remove all the elements from the list (i.e. press the d key to invoke the delete code)
Homework 3: Part 3

• The linear search program I gave you finds the first occurrence of the search value in the list. Modify the program so that it finds the last occurrence of the search value. When the search is done the Sprite should "say" either the search value is not in the list or it should say the location of the last occurrence of the search value.
Homework 3: Part 3 Example

For example if the search value is 7 and 7 is not in the list the Sprite should say

7 is not in the list

if 7 is in the list and 7 appears is in positions 3, 4 and 6 the Sprite should say

The last occurrence of 7 in the list is at position 6