C--

Brandon Rivera, David Talamas, Kevin Du, Shuoyi Yang

Programming for Dummies

- Make code as readable as possible
- By making it more verbose and complex
- Give users the illusion of flexibility
- But still being just as rigid as most programming languages

```
Begin
Function ('study)
  Return (between (-10,50))
EndFunction
Variable('attempts) is 1
Variable('testScore) is between(0, 100)
While ('testScore isLessThan 70)
  Call('study, 'progress)
  Variable ('attempts) equals ('attempts plus 1)
  Variable ('testScore) equals ('testScore plus 'progress)
  If ('testScore isLessThan 0)
    Print ("Lost cause.")
    Break
  EndIf
Done
If ('attempts isEqualTo 1)
  Print ("Congratulations, you got a", 'testScore, "with just one attempt")
Else
  Print ("Congratulations, after", 'attempts, "attempts, you got a", 'testScore)
EndIf
End
```

Basis

- Use the linebuilder concept from examples such as Baysick
- Add functionality and data structures
- Attempt to turn it as close to English as possible

Types

- Ints
- Doubles
- Booleans
- Strings
- Lists
- Arrays
    - More on these last two later

Assigning a variable

- Variable (‘x) is true
- Variable (‘y) equals 10
- Variable (‘z) isDefinedAs (‘number plus ‘infinity)

Conditionals

- If (‘condition)

  //Do this

  Else

  //Do that

  EndIf

- Accepts booleans, variables, and functions

Loops

- While (‘condition)

  //Do stuff

  Done

- Optional Break statement
- Conditional same as if statement

Functions

- Function (‘function)

  ```
  //Do something

  EndFunction
  ```

- Call (‘function)
- Call (‘function, ‘return)
- Optionally add Return statement

Arrays

- Variable (‘array) is Array(“a”, “ab”, “abc”)
- Print(‘array)
- Print(‘array index 1)
- Print(‘array indexAt 0+1)
- Print(‘array pos ‘number)
- Print(‘array posAt ‘number + 1)

Lists

- Variable(‘list) is List(1,2,3)
- Print(‘list)

Methods:

- get(‘list)
- get(‘list, idx)
- getHead(‘list); theFirstValueOf (‘list)
- getTail(‘list); theLastValueOf(‘list)
- insert(‘list, idx, value)
- update(‘list, idx, value)
- append(‘list, value)
- prepend(‘list, value)
- getSize(‘list); theSizeOf(‘list); theNumberOfElementsIn(‘list)
- remove(‘list, idx)
- remove(‘list, idx1, idx2)

Things to add

- More operations on arrays and lists
- Add other data structures (dictionaries, vectors, etc.)
- Add iterators for the data structures
- Add more methods of doing the same thing to further convolute the language

Demo

Questions ??