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New Jersey's Science &
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CS 280
Programming Language Concepts

About Assignment 4

Types

- The language we created has two types: string and integer
- You should probably create something to represent those types, and ALSO something to represent a type error
- Example:

```
enum Type { INTEGER, STRING, ERRORTYPE };
```

Values

- The fourth assignment needs to create some sort of representation of a Value
- A Value is an object that can hold an integer or a string
- A Value has a Type (so that you know if it is holding an integer or a string)
- The result of every operation is a Value

Identifiers

- An identifier in this language is something that gets bound to a Value
- This implies that there is some sort of a symbol table
  - key is the identifier
  - value is a Value
- Evaluating an Identifier returns whatever Value has been bound to it

Implementation

- The easiest way to do this is to create a virtual function named eval() that returns a Value
- Example uses:
  - To add, eval() the operands, check the types for compatibility, perform the operation, make a new Value to hold it and return it
  - To set, eval() the operand and save the resulting Value in the symbol table
  - To print, eval() the operand and print it. Overload operator<<

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