Lecture 27: Student Class Symbol Table

```python
class Student:
    def __init__(self, name, year):
        self.name = name
        self.year = year

    def getName(self):
        return self.name

    def getYear(self):
        return self.year

    def setYear(self, newYear):
        self.year = newYear

if __name__ == '__main__':
    # Symbol table example
    jane = Student('Jane', 2024)
    print(jane.getYear())  # 2024
    jane.setYear(2023)
```

Line 13: `2023
Self. year = newYear`

Set Year

- Name: Value
  - Self: newYear 2023
jane = Student( 'Jane', 2024)

line 3: Self.name = name  # in the constructor

↑ hop to a different symbol table
line 4: self.year = year

⇒ After line 4 ⇒ __init__ Symbol table goes away

goto line 1:

jane = Student (‘Jane’, 2024)

Jane variable created in main symbol table

line 19: jane.getYear() ⇒ Start in main code

2029

line 20: jane.setYear(2023) ⇒ Start in main code
Represent initial shape using an L-system string:

```
'F++F++F'
```

Characters we know how to interpret to make turtle move:

- `'F'` means move turtle forward by distance \( d \)
- `'-'` means turn turtle right by angle \( \theta \)
- `'+'` means turn turtle left by angle \( \theta \)

L-system alphabet: all characters we know how to interpret.
We must set:

- distance \( d \) up to us
- angle \( \theta \) based on what shape we want to make

For Koch snowflake (triangle): \( \theta = 60^\circ \)

\[ \text{Initial Shape} \]

\[ \text{Before} \]

\[ \theta = 60^\circ \]

\[ \text{After} \]

\[ \text{60° right turn} \]

\[ \text{turn left 60°} \]