

Clicker Questions on Subclasses

Here is where we are with the Gradebook program. Class Gradebook has:

```
def NewNumberGrade(self):
    for student in self.roster:
        g = NumberGrade(student.name)
        student.addGrade(g)
```

Class NumberGrade has

```
def __init__(self, name):
    self.get(name)
```

```
def get(self, name):
    self.value = eval(input( "Grade for %s, enter a number: "
                               %name ))
```

It seems like a bad design to have methods `NewLetterGrade()` and `NewNumberGrade()` in class `Gradebook` that are almost identical.

Can we make a constructor for class Grade that looks at the grade value and constructs the appropriate subclass?

A) Make the constructor for class Grade:

```
def __init__(self, name):
    value = input( "Grade for %s: "%name )
    if value.isdigit():
        NumberGrade.__init__(self, value)
    else:
        LetterGrade.__init__(self, value)
```

B) Make the constructor for class Grade:

```
def __init__(self, name):
    value = input( "Grade for %s: "%name )
    if value.isdigit():
        return NumberGrade(value)
    else:
        return LetterGrade(value)
```

C) Neither of these

Well if that doesn't do it, what will?