

L12 PROBLEM 1 (5/5 points)

Consider the following code:

```
class Spell(object):
    def __init__(self, incantation, name):
        self.name = name
        self.incantation = incantation

    def __str__(self):
        return self.name + ' ' + self.incantation + '\n' + self.getDescription()

    def getDescription(self):
        return 'No description'

    def execute(self):
        print self.incantation

class Accio(Spell):
    def __init__(self):
        Spell.__init__(self, 'Accio', 'Summoning Charm')


class Confundo(Spell):
    def __init__(self):
        Spell.__init__(self, 'Confundo', 'Confundus Charm')

    def getDescription(self):
        return 'Causes the victim to become confused and befuddled.'



def studySpell(spell):
    print spell

spell = Accio()
spell.execute()
studySpell(spell)
studySpell(Confundo())
```

1. What are the parent class(es)? Note that the term "parent class" is interchangeable with the term "superclass".

- ☒ Spell 
- ☐ Accio
- ☐ Confundo

2. What are the child class(es)? Note that the term "child class" is interchangeable with the term "subclass".

- ☐ Spell
- ☒ Accio 
- ☒ Confundo 

3. What does the code print out? Try figuring it out in your head before you try running it in Python.

Hint: This code prints out 5 lines. Enter each line that is printed out in its own box, in sequential order.

1.

Accio

Answer: Accio

2.

Summoning Charm Accio

Answer: Summoning Charm Accio

3.

No description

Answer: No description

4.

Confundus Charm Confundo


Answer: Confundus Charm Confundo

5.

Causes the victim to become confused and befuddled.

Answer: Causes the victim to become confused and befuddled.

4. Which `getDescription` method is called when `studySpell(Confundo())` is executed?

- ☐ The `getDescription` method defined within the `Spell` class
- ☐ The `getDescription` method defined within the `Accio` class
- ☒ The `getDescription` method defined within the `Confundo` class 

EXPLANATION:

The one inside the `Confundo` class is called. Why? Because methods in the child class override those in the parent class if they exist in both classes.

5. How do we need to modify `Accio` so that `print Accio()` will print the following description?

Summoning Charm Accio
This charm summons an object to the caster, potentially over a significant distance.

```
1 class Accio(Spell):
2     def __init__(self):
3         Spell.__init__(self, 'Accio', 'Summoning Charm')
4     def getDescription(self):
5         return 'This charm summons an object to the caster, potentially over a significant distance.'
```

Correct

Help

```
class Accio(Spell):
    def __init__(self):
        Spell.__init__(self, 'Accio', 'Summoning Charm')

    def getDescription(self):
        return 'This charm summons an object to the caster, potentially over a significant distance.'
```

Test results

CORRECT

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