Group Activity 3: Polymorphism

[Submit Assignment](https://oregonstate.instructure.com/courses/1602381/assignments/6797069?module_item_id=16930568)

* **Due** Nov 6 by 11:59pm

* **Points** 10

* **Submitting** a file upload

* **File Types** pdf
* **Available** Oct 22 at 8am - Nov 6 at 11:59pm 16 days

**Group Task: Polymorphism**

**Goals:**

Collaborate on key questions for this module to gain a deeper understanding of polymorphism

Read the course overview, paying particular attention to the Key Questions for this week.

1. What is the slicing problem?  ([Link (Links to an external site.)](https://en.wikipedia.org/wiki/Object_slicing) https://en.wikipedia.org/wiki/Object\_slicing)
2. Why is it a problem?
3. How does polymorphism solve the slicing problem?

(Object slicing: when you assign an object of a subclass to the super class, the superclass knows nothing of the additional information in the subclass, and hasn't got room to store it, so the additional information gets "sliced off".)

As **a group**, you are to discuss these three key questions and formulate a **group response to the collection of the questions**.  You may use any material in the course, the text, other books, and online resources to formulate your response.   You can form sub groups to draft a response and then collectively define polymorphism based on your programming experience with it.

Prepare a single document with the results of you group discussion (in a pdf file) and submit it **via Canvas**.  Each group only needs to **submit one file by one person** with your **group number** in the file name and the **full names of all the members participate** in the document.  While this is not a formal essay, it should have some **structure** (introduction, your points, illustrations, conclusion) where the ultimate goal is to define polymorphism and how it is a useful construct for solving particular types of problems (such as the slicing problem).  Submissions of substantively simple discrete answers to each question will not be graded. The goal is that you provide a holistic response to these questions in such a manner that you help the reader gain understanding about polymorphism as an important concept in C++.

This is your opportunity to discuss and reflect on some deeper concepts in the course material.  Here are 3 sets of slides from several sources that may be helpful in gathering a deeper understanding of polymorphism (same slides as in reading materials).  In particular, polymorphismII has a description of the "slicing problem".

[PolymorphismIa.pdfPreview the documentView in a new window](https://oregonstate.instructure.com/courses/1602381/files/65145091/download?wrap=1)

[PolymorphismIb.pdfPreview the documentView in a new window](https://oregonstate.instructure.com/courses/1602381/files/65145085/download?wrap=1)

[PolymorphismII.pdfPreview the documentView in a new window](https://oregonstate.instructure.com/courses/1602381/files/65145088/download?wrap=1)