

634194

Nathan is on the run (apparently the US is about to invade Canada). He needs to grab food. Each piece of food around him has a nutritional value, and a weight. He wants to put the most calories in his backpack, but it can only hold up to certain weight. What should he optimize for when deciding which foods to bring?

- a. The value of food
- *b. The value / weight ratio of food
- c. The weight / value ratio of food
- d. The weight of food
- e.
- f. "
- g. "
- h. "
- i. "

General Feedback:

Greedy approach to fractional knapsack.

629973

Suppose you are defining a Java ProductItem class to store information about the inventory in a store, and you want to give the class an instance variable for the price of that item. Which of the following is the best datatype for the instance variable that models the price?

- a. double
- b. float
- c. int
- d. String
- *e. a user-defined Money class
- f. "
- g. "
- h. "
- i. "
- j. "

General Feedback:

Arguments can be made for any of these choices (except perhaps "int"). I would give `Money` an edge, because a user-defined class allows you to write methods to display the value properly, do arithmetic on it, and perhaps convert it to different currencies. But I'm going to tag this as a question with more than one answer.

634905

```
1. public class FirstApp extends wheels.users.Frame {
2.     private wheels.users.Ellipse _ellipse;
3.
```

```
4.     public FirstApp() {  
5.         _ellipse = new wheels.users.Ellipse();  
6.     }  
7.  
8.     public static void main(String[] args) {  
9.         FirstApp app = new FirstApp();  
10.    }  
11.}
```

What does line 2 accomplish (cause to happen)?

- a. wheels.users.Ellipse is given _ellipse as an alias
- b. An invisible Ellipse is drawn on the screen
- *c. _ellipse is declared as a wheels.users.Ellipse
- d. wheels.users.Ellipse is set to be a private object
- e. _ellipse is instantiated as a wheels.users.Ellipse
- f. "
- g. "
- h. "
- i. "
- j. "

General Feedback:

Remember that in Java we need to declare variables, and then instantiate them (using new). Line 2 is simply a declaration -- the variable gets instantiated (in line 5) when a FirstApp gets instantiated.