

Evidence for Implementation and Testing Unit.

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I.T 1 - Demonstrate one example of encapsulation that you have written in a program.

I.T 2 - Example of the use of inheritance in a program.

I.T 3 - Example of searching

```
1  benelux = ['The Netherlands', 'Belgium', 'Luxembourg']
2
3  def search_word(list, searched_word)
4    for word in list
5      return "#{searched_word} found" if word == searched_word
6    end
7    return "#{searched_word} not found"
8  end
9
10 puts search_word(benelux, "The Netherlands")
11
12 puts search_word(benelux, "Italy")
```

[→ code git:(master) × ruby searching.rb
The Netherlands found
Italy not found

I.T 4 - Example of sorting.

```
1  benelux = ['The Netherlands', 'Belgium', 'Luxembourg']
2
3  def sort_words(unsorted)
4    still_unsorted = unsorted
5    sorted = []
6    while still_unsorted.length > 1
7      unsorted = still_unsorted
8      still_unsorted = []
9      smallest = unsorted.pop
10     for word in unsorted
11       if word < smallest
12         still_unsorted << smallest
13         smallest = word
14       else
15         still_unsorted << word
16       end
17     end
18     sorted << smallest
19   end
20   sorted << unsorted[0]
21 end
22
23 puts sort_words(benelux)
```

```
[→ code git:(master) ✕ ruby sorting.rb
Belgium
Luxembourg
The Netherlands
```

I.T 5 - Example of an array, a function that uses an array and the result.

```
1  benelux = ['The Netherlands', 'Belgium', 'Luxembourg']
2
3  def count_characters(list)
4    for word in list
5      puts "#{word} contains #{word.length()} characters"
6    end
7  end
8
9  count_characters(benelux)
```

[→ **code** **git:(master)** ✖ **ruby** array.rb
The Netherlands contains 15 characters
Belgium contains 7 characters
Luxembourg contains 10 characters

I.T 6 - Example of a hash, a function that uses a hash and the result.

```
1  benelux = [  
2    {  
3      name: "The Netherlands",  
4      population: 17200671,  
5      capital: "Amsterdam"  
6    },  
7    {  
8      name: "Belgium",  
9      population: 11358357,  
10     capital: "Brussels"  
11   },  
12   {  
13     name: "Luxembourg",  
14     population: 590667,  
15     capital: "Luxembourg City"  
16   }  
17 ]  
  
18  
19 def calc_total_population(countries)  
20   total_population = 0  
21   for country in countries  
22     total_population += country[:population]  
23   end  
24   return total_population  
25 end  
26  
27 puts calc_total_population(benelux)
```

[→ code git:(master) ✕ ruby hash.rb
29149695

I.T 7 - Example of polymorphism in a program.

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