UNIVERSITY of GREENWICH

Alliance with FPT Education

Lab: OOP Basic

Problem 1. Define a class Car

Define a class **Car** with fields for **brand**, **model** and **year**. Make a three instances of the class.

Problem 2. Add a Constructor

1. Add constructor to the **Car** class from the last task
2. It should accept a two arguments - brand and model and set it as properties.

Problem 3. Add a methods

1. Add a set method for setting a property **year**
2. Validate input in new method
3. Add a get method for all properties

Problem 4. Make a instances

Using the Car class, write a program that reads from the console **4** lines of car information information. Every line contains brand, model and year, separated by space. Make list of objects of class Car. On finish - prints all cars, **sorted in alphabetical order by brand, model and year**.

Examples

Input	Output
Nissan X-trail 2007 Renault Scenic 2001 Audi A6 2001 Renault Clio 1995	Audi,A6 Nissan,X-trail,2007 Renault,Clio,1995 Renault,Scenic,2001

Problem 5. Add sub class

Using the previous problem, add a second class, that define car model extra details (engine, number of seats, horsepower,...). Add this information as property of main class and populate it via method. Make one instance, populate all properties and dump the object.

Problem 6. Rewrite a code

Rewrite procedural/functional code to OOP style

```
<?php
```

```
function math_sum($a,$b){
  return $a+$b;
}

function math_div($a,$b){
  math_check_if_zero($a);
  math_check_if_zero($b);
  return $a / $b;
}

function math_check_if_zero($x){
  if($x == 0){
   echo "division by zero is not possible";
   exit;
  }
}

echo math_sum(2,3);
echo math_div(1,2);
```

Problem 7. Create Anonymous Object

1. Create Anonymous Object with 10 properties by your choice and populate with values
2. Print all properties with foreach like - {name}->{value)

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