



Exercise Fourteen

14.1 Create a new Project called `exercise_14` with a package called `exercise_14`.

Create an interface called **people**

Within the interface define the following methods ...

```
set_eyes(String colour);  
set_hair(String colour);  
set_height(double height);  
set_age(int age);  
set_gender(char sex);
```

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14.2 Create a new class which implements people called `person_dets`

Create the following fields

```
String hair;  
double height;  
char sex;  
int age;  
String eye_colour;
```

Create each method outlined in `people`.

Each method will update the appropriate field from above, as the name of the instance will not be known the Developer will need to use the 'this' convention.

This is the basic structure for created a person record in the next part of the exercise.

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14.3 Create a new class called ex14_1

Within the main() method, create a new instance of person_dets called one, using the methods within person_dets populate the various fields available.

Create output to print out the values of each of those fields in the one instance ...

This person is 20 years old, has Blue eyes Red hair and is 170.5 cm tall

If there is sufficient time, create another instance called two and again populate its fields, repeating the above output.

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14.4 Copy ex14_1 to ex14_2.

Extend ex14_2 with person_dets

Create a constructor of ex14_2

Within the ex14_2 constructor populate the person_dets fields using the appropriate methods.

Within the main() method, create a new instance of the constructor called one, and output the values of each of those fields in the one instance ...

This person is 20 years old, has Blue eyes Red hair and is 170.5 cm tall

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14.5 Copy ex14_2 to ex14_3.

Remove the extends and the constructor but retain the creation of a new instance called one using the ex14_2 class, note that the method still functions as before because it creates an instance of an existing class.

14.6 Create a new class called person_details which extends person_dets, add a new method called print_details() which prints the contents of all the fields in the instance, remember at this point the method will not know the identity of each instance therefore the 'this' convention will need to be used.

14.7 Create a new class called ex14_4. Create a new instance of person_details and run the above print_details(), because no fields have been populated in the instance the following should be the output ...

This person is 0 years old, has null eyes null hair and is 0.0 cm tall

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14.8 Extend the `person_details` class with a new class called `person_information`.

Create a new `print_details()` method which overrides the original found in `person_details`, output a few fields found in `person_details`.

Create another method called `original_details()`, this will run the original `print_details()` found in `person_details`. Remember to use the 'super' convention.

14.9 Copy `ex14_2` to `ex14_5`. Extend this class using `person_information`.

Within the `ex14_5` constructor, call both the `print_details()` and the `original_details()` ...

This person has Brown hair

This person is 35 years old, has Brown eyes Brown hair and is 200.0 cm tall