# Your Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Student Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Lab 5a: to be done in class with a partner – due at the end of the lab

Create a class called Person that has instance variables, setters, and getters for the following data members:

* First name
* Last name
* Birth year
* Sex
* Weight in pounds
* Highest education level (can be “high school”, “undergraduate”, or “graduate”)

Create several overloaded constructors, as follows:

1. One constructor takes all six values (above) as parameters
2. Another constructor takes five values as parameters, but sets the birth year automatically to 2017
3. A third constructor takes three values as parameters, but sets the birth year automatically to 2017, the sex to female, and the highest education level to “high school”.

In the first two constructors, **use a switch statement** to ensure that the highest education level is only one of the three specified, and **use another switch statement** to ensure that the sex is either “male” or “female”. Note: to compare Strings you cannot use ==. Use a switch statement instead. **NOTE:** soon we will learn that instead we can use the .equals() method also:

if(sex == “male”) // **wrong**

if(sex.equals(“male”)) // right

switch(sex){

case “male”: // also right

}

Create overloaded methods for:

printDetails()   
printDetails(boolean kilograms)  
printDetails(boolean kilograms, boolean uppercase)

All three methods print sentences in the exact format of:

“Tiger Woods was born in 1975. He weighs 200 pounds and he has an undergraduate degree”

Note: use “She” instead of “he” for females.

Note: convert to kilograms for the second overloaded method if true is passed in.

Note: print the names out in UPPERCASE in the third overloaded method if true is passed in; otherwise use all lowercase:

“TIGER WOODS was born in 1975. He weighs 200 pounds and he has an undergraduate degree” or

“tiger woods was born in 1975. He weighs 200 pounds and he has an undergraduate degree” or

“TIGER WOODS was born in 1975. He weighs 90.9 kilograms and he has an undergraduate degree” or

“tiger woods was born in 1975. He weighs 90.9 kilograms and he has an undergraduate degree”

Submission

This in-class lab is due at the end of this class. Do not upload your lab to BCIT’s servers. When you are finished, show your instructor so he can sign your paper.

Checked by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**NOTE:** keep this paper for your instructor to verify your grades later in the course.

NOTE: EVERY SINGLE STUDENT MUST SHOW THIS LAB AND GET HIS OR HER PAPER SIGNED….

# Lab 5b: to be done at home alone – bring to the next class for marking

This take-home lab is due next class. Finish it before next class (on your own…no partner) and bring it in person so your instructor can review it with you during the lab period after the lecture. Do not upload your lab to BCIT’s server.

Create a Math class that has the following methods:

public int divide(int x, int y) **// returns x divided by y;   
 // but if y == 0, print “ERROR” and return 0**

public int max(int x, int y) // returns the bigger number: x or y

public int remainder(int x, int y) **// returns the remainder when x is divided by y  
 // see above if y == 0**

public int triple(int x) // returns x times three

//returns true if the operation is any of “\*”, “/”, “%”, “+”, or “-“; otherwise false:  
public boolean isValidOperation(String operation) // use a switch statement

Checked by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Test your code. Bring it to the next class and show your instructor. He will sign your paper when everything is completed correctly.

NOTE: EVERY SINGLE STUDENT MUST SUBMIT THIS LAB AND GET HIS OR HER PAPER SIGNED….

Keep this paper until the final day of class. At that point, hand all your lab papers to your instructor for marks.