Program 2a
COP-3804 - Java Intermediate Programming
Professor: Michael Robinson
e-mail: michael.robinson@cs.fiu.edu
Web Page: www.cs.fiu.edu/~mrobi002/teaching

- Turn in the signed source code on paper, and email me the source code.
- Make sure the programs are properly documented and aligned uniformly, looking professionally, I will take points off if it is not.
- Include the following header in every program:

/*********************************************************************
Author: Your Name
Course: COP 3804 Days and Time
Professor: Michael Robinson
Program #: Program Purpose/Description
{A brief description of the program }
Due Date: MM/DD/YYYY
Certification:
I hereby certify that this work is my own and none of it is the work of any other person.
.........{ your signature }.........
*********************************************************************/

Purpose of this program:
To implement classes using Inheritance

1 - Worth 3 points (Implement super-class - no main method)
- Create a super-class called University
  - In this class create the following global PRIVATE variables which represent the type of classes and credits that all students must take:
    - humanitiesCredits = 6
    - socialScienceCredits = 6
    - englishCredits = 6
    - mathCredits = 3
    - totalCreditsRequired = 128;
  - In this class create the following methods:
    - humanities
    - socialScience
    - english
    - math
    - getHumanitiesCredits()
    - getSocialScienceCredits()
    - getEnglishCredits()
    - getMathCredits()
    - getTotalCreditsRequired()

  The first four above methods should print the amount of credits required from its department i.e:
  "The English Department requires 6 credits"
the amount of credits should be obtained from the private variables.

  The next previous five methods (gets) must return the amount of credits required based on their name.

2 - Worth 3 points (Implement sub-classes - no main method)
- Create the following sub-classes extending University:
  - ComputerScience
  - InformationTechnology
  - NetworkingAndTeleCommunications

  In each of the above sub-classes override the following variable:
create the public variable

    coreCredits = 77;

and override the following methods:

    math()
    making it print
    System.out.printf("sb The Math Department requires %d credits\n", mathCredits);

    getMathCredits()
    making it print
    using the sub-classes mathCredits private variable

3 - Worth 3 points (Implement a calling program)
- Create a main program called yourLastNameFirstInitialpgm2.
- Create the following global variables:
  total = 0;
  core  = 0;
  base  = 0;

- In the main() call the methods:
  cs();
  it();
  tn();

each of these methods should print results similar to these:

    Computer Science:
    sp The Humanities Department requires 6 credits
    sp The Social Science Department requires 6 credits
    sp The English Department requires 6 credits
    sb The Math Department requires 12 credits

    Total base Credits 30
    Total core Credits 78
    Total electives 20
    =====
    Total to graduate 128

    Information Technology:
    sp The Humanities Department requires 6 credits
    sp The Social Science Department requires 6 credits
    sp The English Department requires 6 credits
    sb The Math Department requires 6 credits

    Total base Credits 24
    Total core Credits 80
    Total electives 24
    =====
    Total to graduate 128

    Telecommunications and Networking:
    sp The Humanities Department requires 6 credits
    sp The Social Science Department requires 6 credits
    sp The English Department requires 6 credits
    sb The Math Department requires 9 credits

    Total base Credits 27
    Total core Credits 77
Total electives  24
Total to graduate 128

Note: The sp at the beginning of the output means this comes from the Super-Class
The sb at the beginning of the output means this comes from the Sub-Class

The base, core, and Total to graduate values come from the sub-classes.
Since the sub-classes inherit from the super-class you are also using the
super-class and its variables

4 - GUI  Worth 1 points ( Implement GUI messages in addition to printing them in text )

Note: you need to turn in 1 Super-Class, 3 Sub-Classes, and 1 Main program.