MATH217E **Fall 2017**

Programming Assignment #1 **Due: 25/10/2017 Wednesday, 23:59**

In this programming assignment, you will write a program that finds the consecutive positive integers not exceeding a predefined number that are perfect powers. Your program should prompt the user to enter the number and display the results if exists.

Example:

A quicker way to do this is simply to look at all perfect powers not exceeding 100 and checking whether the next largest integer is also a perfect power. The squares of positive integers not exceeding 100 are 1, 4, 9, 16, 25, 36, 49, 64, 81, and 100. The cubes of positive integers not exceeding 100 are 1, 8, 27, and 64. The fourth powers of positive integers not exceeding 100 are 1, 16, and 81. The fifth powers of positive integers not exceeding 100 are 1 and 32. The sixth powers of positive integers not exceeding 100 are 1 and 64. There are no powers of positive integers higher than the sixth power not exceeding 100, other than 1. Looking at this list of perfect powers not exceeding 100, we see that $n = 8$ is the only perfect power n for which $n + 1$ is also a perfect power.

Submission Instructions

Please zip and submit all your files (report (.pdf) and java file) using filename YournumberHW1.zip (150713852HW1.zip) via Google Classroom. Report must contain the source code with comments and **screen shot of the output** that comes on console screen. Class name should consists of **your name and surname** like BernaKirazPerfectPower.java.

Notes:

1. Write a comment at the beginning of the program to explain the purpose of the program.
2. Write your name and student ID as a comment.
3. Include necessary comments to explain your actions.
4. Select meaningful names for your variables and class name.

Grading:

a. Correct result (85 points)
b. Comments are necessary! (10 points)
c. Correct format (5 points)

Warning: All types of plagiarism will result in zero grade from the homework. No late submission will be accepted.