Columbia College
Vancouver, Canada

Introduction to Computer Science and Programming 1
CSCI120

Chapter1-Assignment

Note: This document has been designed and developed as part of an initiative for creating an OER (Open Education Resource) package for the course CSCI 120 at Columbia College.

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Requirements

- For each of the following problems,
  - Design an algorithm
  - Draw a flowchart to represent the algorithm
  - Test your flowchart using the tracing table (hand tracing approach) using one or two sample inputs.
- To provide the answer you can
  - Either use just a pen and paper and please scan your papers and insert it in the designated area on this paper.
  - Or, you can use www.draw.io online tool to create the flowchart and export the image and insert it here.

If it is a group assignment, please add the information here

# Of Students in the Group:		
Student 1	*First name, last name*	*Student-ID*
Student 2	*First name, last name*	*Student-ID*
Student 3	*First name, last name*	*Student-ID*
Student 4	*First name, last name*	*Student-ID*

Problem1

- Design a flowchart for an application which receive a number from the input and print a shape like this: (if the input is 5)
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Problem2

- Design an algorithm and a flowchart which receives two numbers A and B and prints all the numbers that are bigger than A but smaller than B that are divisible by 3.

Problem3

- Design an algorithm and a flowchart which receives two numbers A and B from the input and calculate A to the power of B and print the result. (Remember you cannot use ^, power, operation in your flowchart. You can use + (addition) and * (multiplication) if needed)
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Problem4

- Design an algorithm and a flowchart which receives a number from input like 123 and returns the reversed of the number. For instance, if the input number is 123, the output should be 321.
- Note: the input number cannot be divisible by 10. In other word, the algorithm would not work for numbers like 1230 or 550 (basically any number that ends with a zero)

Problem5

- Design an algorithm and a flowchart which receives a number from input and find the next prime number which is bigger than the input number. For instance if number 8 is given to the algorithm, it finds the first number that is bigger than 8 and is prime which is 11.
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