

## Practice Set 1 – Simple Java Programs

These are 5 very simple programs to get you familiarized with the Java syntax. Function/method usage is not required. But it is up to you if you want to use functions (self-study).

1. Write a program that accepts the final grade of a student and then displays its grade point equivalent based on the following table:

Final Grade	GPE
< 60	0.0
60 – 65.999	1.0
66 – 71.999	1.5
72 – 77.999	2.0
78 – 82.999	2.5
83 – 88.999	3.0
89 – 93.999	3.5
94 – 100	4.0

### Sample Run

Enter final grade: 95.5 GPE: 4.0	Enter final grade: 79.0 GPE: 2.5
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2. Create a program that will ask for an integer from 1-99 and display its Roman numeral equivalent. HINT: You can use a switch statement in Java too!

### Sample Run

Input: 5 Output: V	Input: 18 Output: XVIII	Input: 54 Output: LIV
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3. Create a program that will accept two integers and then displays the Greatest Common Factor (GCF) of the two numbers.

#### Sample Run

Input n1: 7 Input n2: 14 GCF: 7	Input n1: 11 Input n2: 13 GCF: 1	Input n1: 18 Input n2: 12 GCF: 6
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4. Write a program that will compute for the factorial of a number entered by the user. The formula for factorial is:

$$n! = \begin{cases} 1 & n = 0 \text{ or } 1 \\ 1 \cdot 2 \cdot 3 \dots (n-1)(n) & \text{otherwise} \end{cases}$$

#### Sample Run

n = 8 8! = 40320	n = -2 invalid input
n = 4 4! = 24	n = 0 0! = 1

5. Write a program that will display the pattern below based on the integer value n entered by the user

#### Sample Run

n = 3  ###  ###  ###	n = -2  invalid input
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n = 5

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n = 2

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