

Instructions:

1. Click on File -> Make a copy

Include your IPO Chart with your code in Eclipse IDE: We will discuss and demonstrate this in the computer lab.

IPO CHART

Program name:	Nim Game (Nim)	
INPUT	PROCESS	OUTPUT
Hint: What will the user input?	Hint: What is the program going to do with the input information?	Hint: What will the screen display after user input?
<p>The user will input how many stones they want to take (<i>int</i>)</p> <p>Not inputs but Constants/Limits:</p> <ul style="list-style-type: none">• Minimum starting stones (15)• Maximum starting stones (30)• Maximum stones to take (3)	<p>1. Initialization:</p> <ul style="list-style-type: none">• Generate a random starting number of stones for the pile. (<i>int</i>, <i>Random</i>)• Initialize the game state variables, including <i>stones</i> (<i>static int</i>) and the <i>userLost</i> flag (<i>boolean</i>). <p>2. User Turn Handling (<i>handleUserTurn</i>):</p> <ul style="list-style-type: none">• Read the user's input using the <i>Scanner</i> object.• Validate the move (check if it's an integer, between 1 and 3, and legal) using <i>isValidEntry</i> (<i>boolean</i>).• Update the <i>stones</i> count by subtracting the user's choice.• Determine if the user's move caused <i>stones == 0</i> (user loses). <p>3. Computer Turn Handling (<i>handleComputerTurn</i>):</p> <ul style="list-style-type: none">• Generate a random, legal move (<i>computerChoice</i>,	<p>1. Game State/Prompts:</p> <ul style="list-style-type: none">• The current number of remaining stones. (<i>String</i>)• Prompts asking the user for their move. (<i>String</i>) <p>2. Moves & Status:</p> <ul style="list-style-type: none">• Messages reporting the number of stones the computer took. (<i>String</i>)• Messages for invalid user input or illegal moves. (<i>String</i>) <p>3. Result/Win Condition:</p> <ul style="list-style-type: none">• Final message declaring the winner: "The player beats the computer!" or "The computer beats the player!". (<i>String</i>)

int) using *drawStones*.

- Update the *stones* count by subtracting the computer's choice.

4. Game Flow (Main Loop):

- Alternate turns until the winning condition (*stones* == 0) is met.
- Identify the winner (the player who did not take the last stone).