

IPO Charts

An IPO (Input, Processing & Output) chart can be used to analyze a problem. It breaks the problem into three components.

1. **Input** – any data that is needed to solve the problem
2. **Processing** – the task that will be carried out to solve the problem
3. **Output** – the end result of the problem

An IPO chart is often a table with three columns, which represent the three components: input, output and processing.

Input	Processing	Output

To complete an IPO Chart follow the steps below using [Pseudocode](#) (not C++):

1. Write the input (what is needed from the person using the algorithm).
2. Write the output (the end result that is stated in the problem).
3. For processing, ask yourself the following question, “What do I have to do with the inputs in order to produce the desired output?” Then write down what should be done.

For example, an IPO chart for a program that calculates a user's gross pay would look like this:

Input	Processing	Output
Get number of hours worked Get hourly pay rate	Calculate gross pay (hours * rate)	Display gross pay