# Lab: Flowcharts

## Background

Flowcharts use simple shapes and symbols to create a visual representation of a program’s operating process. Programmers can use this important tool, not only to organize their own work, but to more easily communicate a program’s structure to others.

## Instructions

Using the software of your choice, create flowcharts to represent the scenario outlined in each question. Software suggestions include:

* [https://app.diagrams.net/](https://app.diagrams.net/" \t "_blank)
* [Lucidchart](https://www.lucidchart.com/pages/" \t "_blank)
* [Microsoft Visio](http://www.office.com" \t "_blank)

1. A program checks if a number is greater than, equal to, or less than zero. It prints “Greater than or equal to zero” if the number is greater than or equal to zero, **or** it prints “Less than zero” if the number is less than zero. When this is complete, the program prints “Done” and exits.

1. Create a flowchart that describes the process of a student leaving home and arriving at school. As soon as the student leaves the house, they check the time. If they leave before 7 a.m., then they take the bus. If they leave exactly at 7 a.m. or after 7 a.m., they take the train. Both options result in the student arriving at school on time.

1. Create a flowchart for a program that divides customers into three age brackets:

* **Child:** age <= 14
* **Teenager:** age 14 < to age <= 18
* **Adult:** age >18

The program starts by asking the user to indicate if a customer’s age is less than or equal to 14 years. If the answer is no, it proceeds to the next bracket. When the user answers Yes it tells them which bracket the customer is in and then ends.