



Flowgorithm Tutorial

Overview

This Flowgorithm Tutorial is a beginner's guide to get started with the flowchart tool. Flowgorithm is a free flowchart software that lets you create runnable flowcharts.

Flowgorithm Tutorial

Flowgorithm is a visual programming language designed for beginners and students to learn programming skills. The flowchart tool is implemented using the *Microsoft C#* and is based on the *.NET 4 Framework*.

Origin of the Name

Flowgorithm = Flowchart + Algorithm

The name is the fusion of two English words: "*Flowchart*" and "*Algorithm*".

Algorithm

An algorithm can be defined as a set of step-by-step instructions or a series of steps used to solve a problem or complete a task.



e can simply break down the algorithm using an [IPO chart](#).

- [Algorithm Development Steps](#)

Flowchart

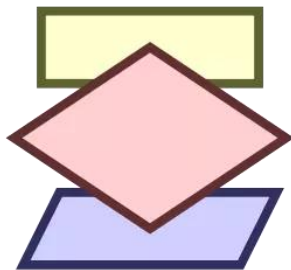
A visual representation of the algorithm is a flowchart. A flowchart represents a visual or graphical modelling language to represent the flow of control, execution of the algorithm, and instructions.

- [Introduction To Flowchart Tools](#)

About Flowgorithm

The author of Flowgorithm software is **Devin Cook**

Flowgorithm Logo



Flowgorithm

Flowgorithm Versions

The major versions of the flowchart software are as follows:

- 4. x ([New features in version 4](#))
- 3. x ([New features in version 3](#))
- 2.x

Download & Install

The Flowgorithm software uses a Windows Installer and also supports silent installation. Steps to install the software on the Windows operating system:

- [Flowgorithm Install On Windows](#)



Update Flowgorithm

The latest version is Flowgorithm 4.0. To update the flowchart tool from an older version: The below steps update the tool from 2.x -> 3.x

- [Update the Flowgorithm](#)

Flowgorithm Features

Software programs are written using a text editor or IDE (Integrated Development Environment). Depending on the programming language, this can be easy or difficult for a beginner. Flowgorithm is a visual programming language. It allows the programmer to visually add flowchart symbols to the flowchart and then execute them to verify the output. Flowgorithm supports many i18n languages. We can create flowcharts in the localized language.

- [Flowgorithm Tool Features](#)

Flowgorithm supported languages:



Flowgorithm

Change Language

English - U.S.	Italiano	Українська	简体中文
English - British	Deutsch	Türkçe	繁體中文
Español - México	Čeština	Afrikaans	日本語
Español - España	Hrvatski		한국어
Català	Slovenski	עברית	Монгол хэл
Português - Brasil	Magyar	العربية	русский
Português - Portugal	Svenska	فارسی	
Galego	Latviešu		
Français	Polski	ಭಾಷೆ	Indonesia
Nederlands	Română		Melayu

Cancel





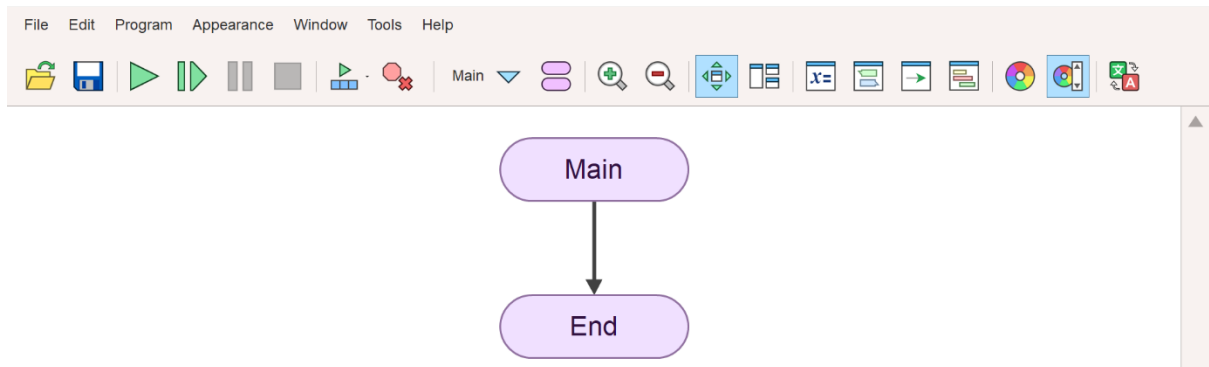
Tool Components

- [Flowgorithm Tool Components](#)

Toolbar Icons

Flowgorithm Menu and the Toolbar icons:

- [Flowgorithm Toolbar Commands](#)



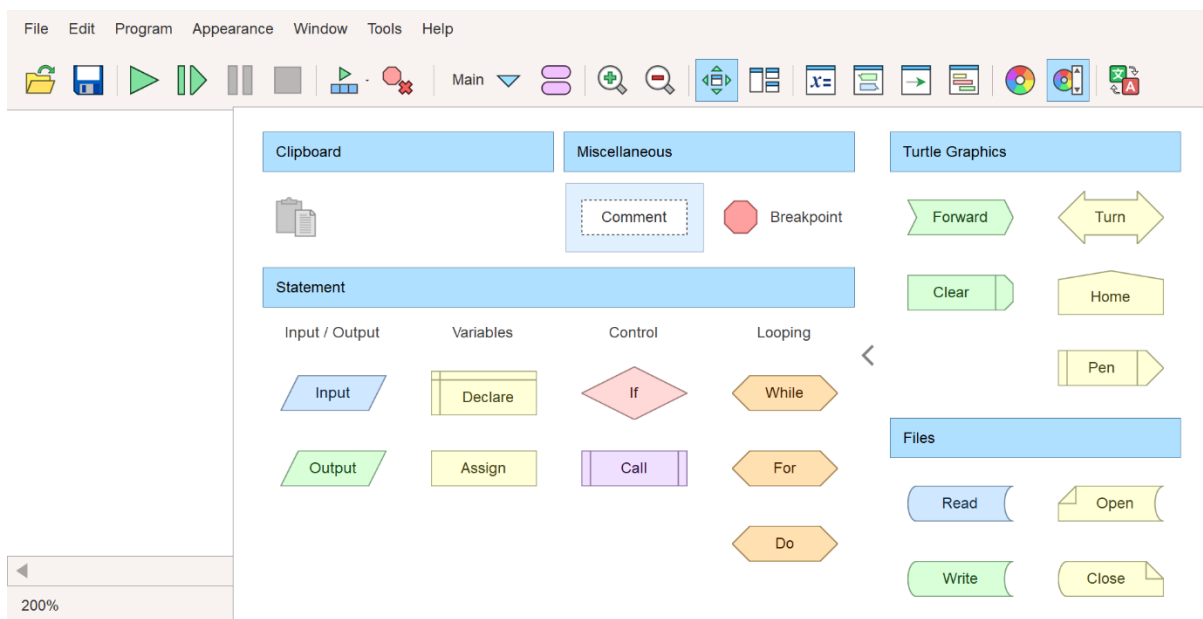


Flowchart Symbols

The Flowgorithm flowchart visually represents algorithms using symbols such as rectangles, rhombuses, parallelograms, and diamonds.

Flowgorithm uses symbols to represent the different actions we want the program to perform. Each shape has a precise, logical meaning. The shape contains a textual indication that describes the activity to be performed. The sequence in which the operations must be performed is shown with connecting arrows.

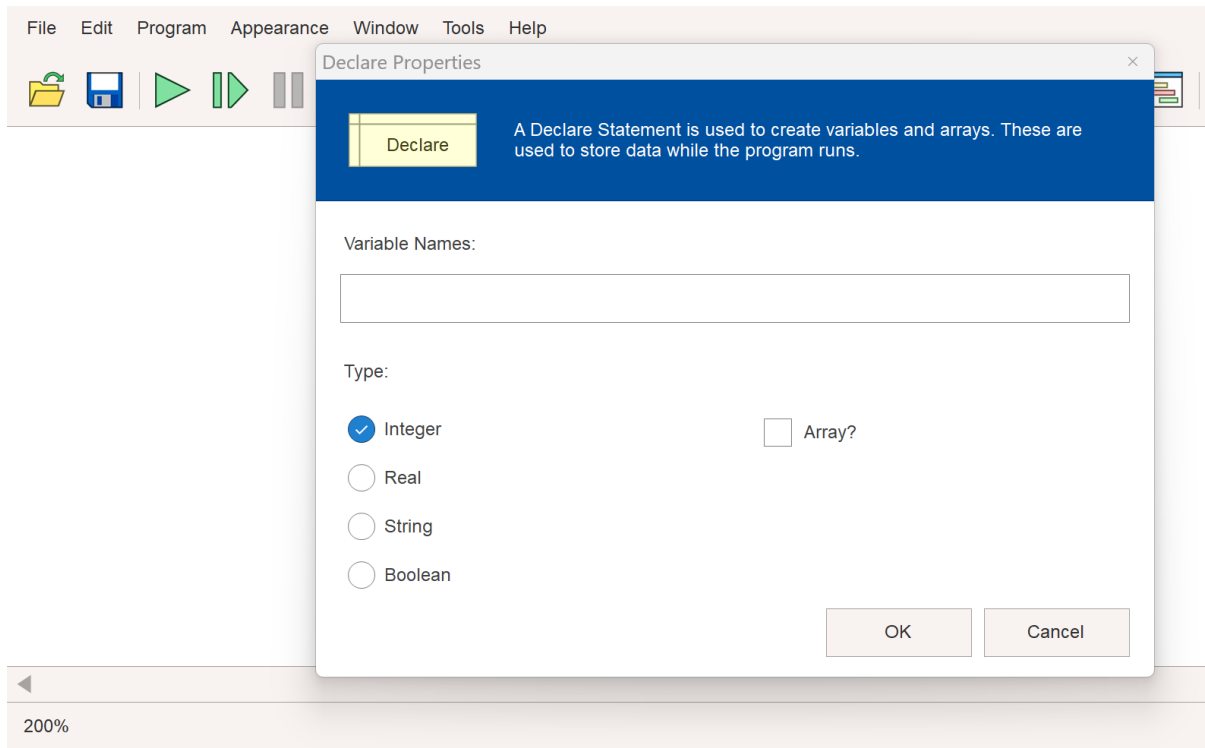
- [Flowgorithm Symbols](#)





Flowgorithm Data Types

- [Flowgorithm Data Types](#)





Flowgorithm Source File

The Flowgorithm source files have an XML(Extensible Markup Language) structure. **XML** is a standard way of encoding data for processing and exchange across applications on the Web. Flowgorithm source files have **.fprg* file extensions. We can edit the **.fprg* source file directly with text editors.

- [Flowgorithm File Format](#)



Comment Statement



Flowchart Comments are for other programmers, students, and instructors. They allow others to understand your program and logic.

- [Flowgorithm Comment Statement](#)

Input/Output Statement

Basic flowchart input and output statements:

- [Flowgorithm Input Statement](#)
- [Flowgorithm Output Statement](#)



Execute Flowchart

Students can run and execute the flowcharts using the Flowgorithm software. The flowchart execution starts with the "**Main**" function, which has no parameters. It runs from the top to the bottom symbol, starting with the **Main** flowchart symbol and ending with the **End** symbol.

- [Run Flowgorithm Flowchart](#)



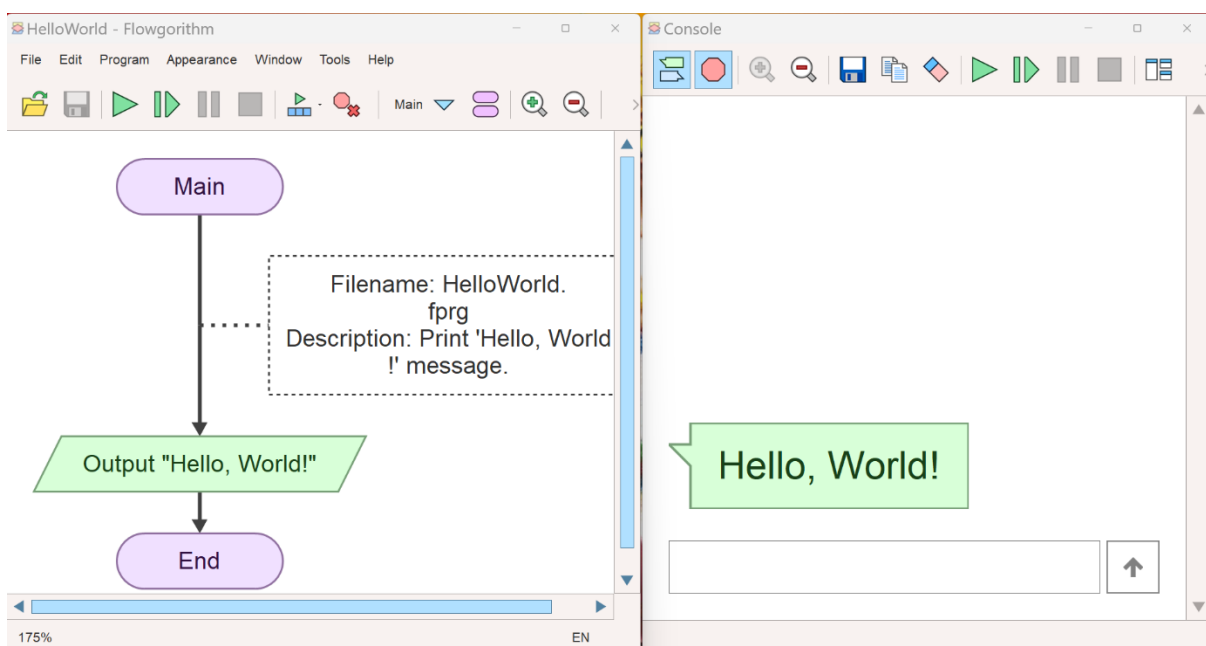
Hello World Flowchart

A common way to learn something new is to create a simple "Hello World" program with the programming language or tools we are learning. The "Hello World" Flowgorithm flowchart prints the "Hello World" message on the output console window.

- [Hello World Flowgorithm Flowchart](#)

Sample Flowchart

Sample Flowgorithm flowchart with an output symbol:





Flowgorithm Identifiers

An identifier is a name assigned to a particular variable, function, procedure, or user-defined item. It labels a specific memory location where data is stored or actions are carried out.

- [Flowgorithm Identifiers](#)

Declare Statement

The Flowgorithm Declare symbol is a rectangle with crossed lines.



- [Flowgorithm Declare Statement](#)

Assign Statement

A rectangle indicates an assignment statement. It is where a variable is given a new value.



Assign

- [Flowgorithm Assign Statement](#)

Flowgorithm Variables

- [Create Variables In Flowgorithm Flowchart](#)

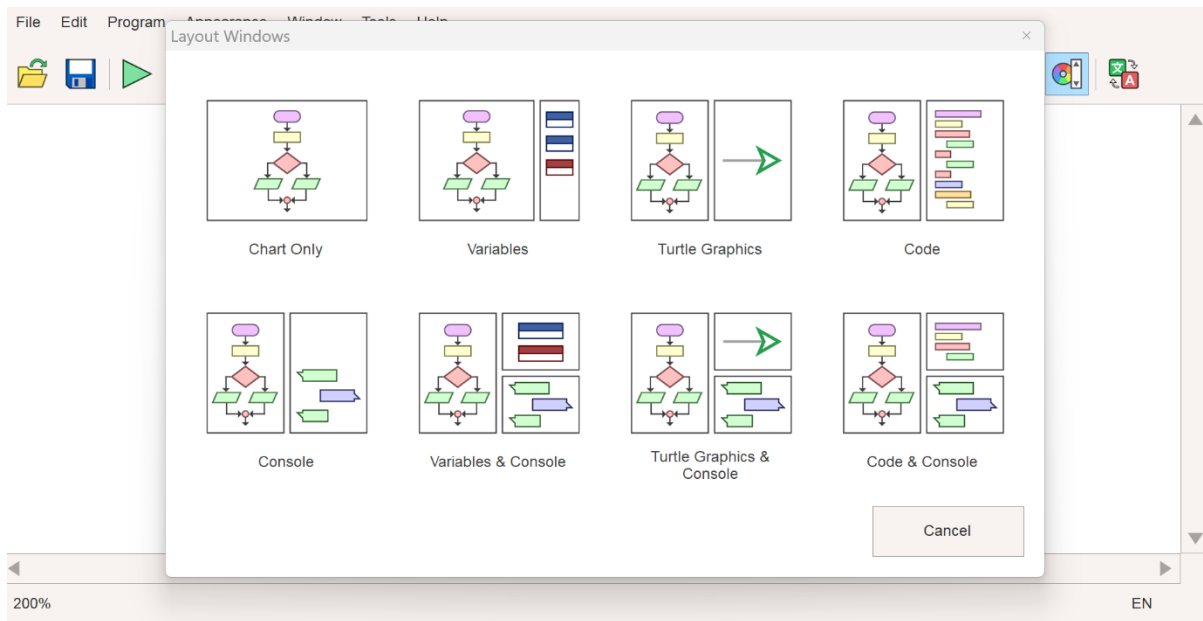


Layout Windows

Flowgorithm supports many layouts window combinations to work with. Some of the combinations are as follows:

- Chart Only
- Variables
- Turtle Graphics
- Code
- Console
- Variables & Console
- Turtle Graphics & Console
- Code & Console

- [Flowgorithm Layout Windows](#)



Take User Input

- [User Input To Flowgorithm Flowchart](#)

If Control

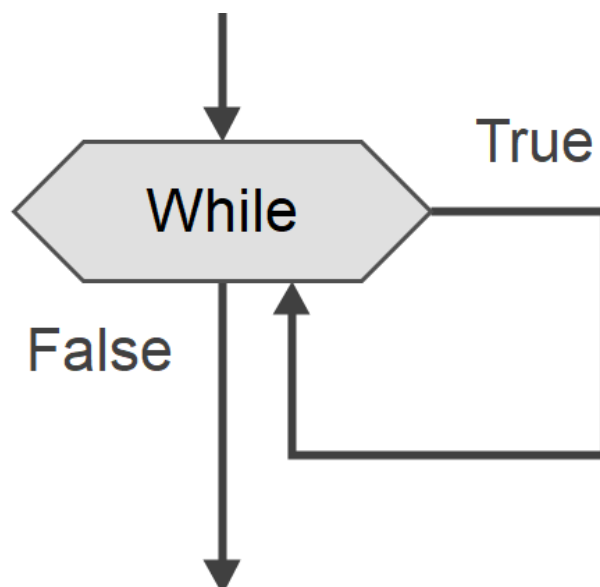
- [Make Decisions In Flowgorithm Flowchart](#)
- [Nested If Statements](#)



Flowgorithm Loops

Loops allow the repetition of statements in the flowchart. Consider the simple example of printing a hundred numbers. We must add a hundred output statements to the flowchart to print the numbers without loops. This will make the flowchart too big and look cumbersome. Loop structures allow the repetition of statements. So, with a loop, we can add a single Output statement and iterate the loop a hundred times.

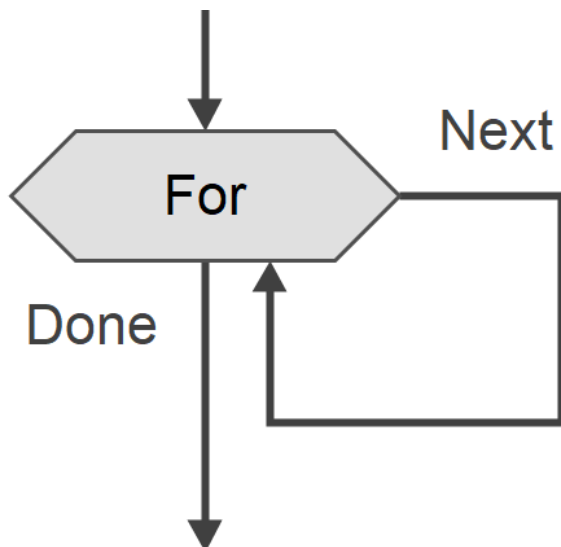
While Loop



- [While Loop Statement In Flowgorithm](#)



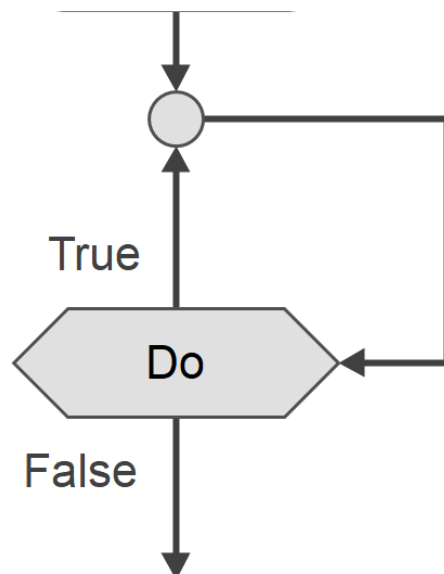
For Loop



- [For Loop Statement In Flowgorithm](#)



Do Loop



- [Do Loop In Flowgorithm](#)

Nested For Loop

We can nest loop statements inside another loop statement.

- [Nested For Loop](#)



Flowgorithm Functions

A function is a set of instructions that accomplishes a particular and well-defined task. If tasks require repetition, functions can be created.

Flowgorithm functions can be broadly divided into two groups:

- *Intrinsic or Built-in Functions*
- *User-defined Functions*

Built-in Functions

The flowchart software already predefines built-in functions. The Flowgorithm supports over 20 predefined functions.

- [Built-in Functions In Flowgorithm](#)

User-defined Functions



The programmer defines user-defined functions. The programmer can design their own functions and invoke them in the flowchart. We can define the function once and reuse the function.

- [User-defined Functions in Flowgorithm](#)

Call Statement

The Call statement allows the programmer to invoke functions.



- [Flowgorithm Call Statement](#)



Function Parameters

The programmer can pass information to the functions using the parameters.

- [Pass-by-Value Example](#)
- [Pass-by-Reference Example](#)

Flowgorithm Recursion

The Flowgorithm supports recursion. A recursive function is a function that calls itself.

- [Recursion In Flowgorithm Flowchart](#)



Generate Code

Flowgorithm can interactively create source code for the flowchart in many supported programming languages. We can run programs directly in Flowgorithm. Flowgorithm can also convert the flowchart into many high-level popular language source codes. These include:

- [Flowgorithm Source Code Viewer](#)

- JavaScript
- Lua
- Perl
- Python
- QBasic
- Ruby
- PHP
- Visual Basic
- Ada
- Lua
- Pascal
- MATLAB
- C #
- C ++
- Java
- Kotlin



Flowgorithm interface showing a menu of programming languages. The window title is "(Untitled) - Flowgorithm". The menu includes:

- Ada 95
- Applescript
- AutoHotKey
- Bash
- C#
- C++
- Fortran 2003
- Groovy
- Java
- JavaScript
- Kotlin
- Lua
- MATLAB
- NetRexx
- Nim
- Pascal
- Perl
- PHP
- Powershell
- Python
- QBasic
- Ruby
- Scala
- Smalltalk
- Swift
- Transact-SQL
- TypeScript
- VBA
- Excel (VBA)
- Visual Basic .NET
- Gaddis Pseudocode
- IBO Pseudocode
- Auto Pseudocode
- Open...

The interface also shows a main menu with "Main" and "End" buttons, and a zoom level of 200%.



Flowgorithm Arrays

An array is a data structure that contains a collection of items. The items stored in an array should be of the same data type. For example, an array that holds Integers can only store whole numbers. Using Arrays, we can store, search, sort, or retrieve data easily.

- [Arrays In Flowgorithm Flowchart](#)

Flowgorithm Turtle Graphics

Flowgorithm 3.0 introduces a new feature and capability to draw Turtle graphics.

- [Flowgorithm Turtle Graphics](#)

Turtle Graphics Example

- [Flowgorithm Turtle Graphics Flowchart](#)



File I/O

Flowgorithm 3.0 introduces file capabilities like reading and writing text files from the flowchart.

File Symbols

- [Flowgorithm File Flowchart Symbols](#)

Read Text File

- [Read Text File using Flowgorithm](#)

Write Text File

- [Write To Text File using Flowgorithm](#)



Export Flowchart

We can export the Flowgorithm flowchart to an image file. Flowgorithm supports export to *PNG*(Portable Network Graphics) and *SVG*(Scalable Vector Graphics) image files.

- [Export Flowgorithm Flowchart](#)

Official Website

For more information on the Flowgorithm tool, visit the official website:

- [🌐 http://flowgorithm.org/](http://flowgorithm.org/)