

# Control-Flow in Rust

Spoken Tutorial Project

<https://spoken-tutorial.org>

National Mission on Education through ICT

<https://sakshat.ac.in>

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# Learning Objectives

**In this tutorial, we will learn about:**



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- ▶ `if/else` control flow statements



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- ▶ **Different types of Loops supported in Rust**



# Learning Objectives

**In this tutorial, we will learn about:**

- ▶ `if/else` control flow statements
- ▶ **Different types of Loops supported in Rust**
- ▶ **Syntax of all the control flow statements and their usage**



# System Specifications

**This tutorial is recorded using:**



# System Specifications

**This tutorial is recorded using:**

▶ **Ubuntu Linux OS version 18.04**



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**This tutorial is recorded using:**

- ▶ **Ubuntu Linux OS version 18.04**
- ▶ **Rust version 1.47.0**



# System Specifications

**This tutorial is recorded using:**

- ▶ **Ubuntu Linux OS version 18.04**
- ▶ **Rust version 1.47.0**
- ▶ **Visual Studio Code version 1.45.0**  
(code editor)



# Prerequisites



# Prerequisites

- ▶ **You should be familiar with** `compiling and running Rust files`



# Prerequisites

- ▶ **You should be familiar with** `compiling and running Rust files`
- ▶ **If not, please go through the prerequisite Rust tutorials on** <https://spoken-tutorial.org>



# Code Files

- ▶ **The file used in this tutorial is available in the Code files link on this tutorial page**



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- ▶ **Pls download and extract the file**



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- ▶ **Make a copy and then use it for practising**



# Control Flow

- ▶ **Control flow means deciding whether to run a piece of code, based on a condition**



# Control Flow

- ▶ Control flow means deciding whether to run a piece of code, based on a condition
- ▶ This is an integral part of any programming language



# Control Flow

- ▶ **Control flow means deciding whether to run a piece of code, based on a condition**
- ▶ **This is an integral part of any programming language**
- ▶ **This can be achieved using `if` and `else` statements**



# Control Flow

## ▶ `if` expressions



# Control Flow

- ▶ **if expressions**
- ▶ **else if expressions**



# Control Flow

- ▶ We can use `if` without `else`, however `else` cannot be used without `if`



# Control Flow

- ▶ We can use `if` without `else`, however `else` cannot be used without `if`
- ▶ `else` is always preceded with an `if` statement



# Control Flow

- ▶ We can use one or more else if along with the if statement



# Control Flow

- ▶ We can use one or more else if along with the if statement
- ▶ When you use else if, always follow it up with an else condition too



# Control Flow

- ▶ **The code works fine even when we don't end with an else statement**



# Control Flow

- ▶ **The code works fine even when we don't end with an else statement**
- ▶ **To maintain coding standards it is advised to use else condition when we are using else if**



# Control Flow - Loops



# Control Flow - Loops

- ▶ Loops **are** control structures **that are repeatedly executed until a particular condition fails**



# Control Flow - Loops

- ▶ Loops **are** control structures **that are repeatedly executed until a particular condition fails**
- ▶ Loops **repeat a block of code n number of times until a particular condition fails**



# Control Flow - Loops



# Control Flow - Loops

▶ for Loop



# Control Flow - Loops

- ▶ `for` Loop
- ▶ `while` Loop



# Control Flow - Loops

- ▶ for Loop
- ▶ while Loop
- ▶ **Note: There's no do while loop in Rust**



# Summary

**In this tutorial, we have learnt:**

- ▶ if/else control flow statements
- ▶ **Different types of loops**
- ▶ **Their syntax and usage**



# Assignment

- ▶ **Go to the project folder** `rust-assignment`
- ▶ **In the `main.rs` file**
  - ▶ **Create a array named `n` and assign 10 random numbers to it**
  - ▶ **Loop over the array**
  - ▶ **Count the number of even values and odd values**
  - ▶ **Print the count of odd and even values**



# Assignment

- ▶ Compile **and** execute **the project**
- ▶ **Observe the output in the Terminal**



# About Spoken Tutorial project

- ▶ Watch the video available at [https://spoken-tutorial.org/What\\_is\\_a\\_Spoken\\_Tutorial](https://spoken-tutorial.org/What_is_a_Spoken_Tutorial)
- ▶ It summarises the Spoken Tutorial project
- ▶ If you do not have good bandwidth, you can download and watch it



# Spoken Tutorial Workshops

## The Spoken Tutorial Project Team

- ▶ Conducts workshops using spoken tutorials
- ▶ Gives certificates to those who pass an online test
- ▶ For more details, please write to [contact@spoken-tutorial.org](mailto:contact@spoken-tutorial.org)



# Answers for THIS Spoken Tutorial

- ▶ **Questions in THIS Spoken Tutorial?**
- ▶ **Visit <https://forums.spoken-tutorial.org>**
- ▶ **Choose the minute and second where you have the question**
- ▶ **Explain your question briefly**
- ▶ **The Spoken Tutorial project will ensure an answer**
- ▶ **You will have to register to ask questions**



# Acknowledgements

- ▶ **Spoken Tutorial project is funded by Ministry of Education (MoE), Govt. of India**



# Thank you

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