



RUBY

19CSE100 – Problem Solving AND Algorithmic Thinking PROGRAMMING LANGUAGE Survey Assignment

ANANTH R

CB.EN.U4CYS22006

**TIFAC-CORE in Cybersecurity
Amrita Vishwa Vidyapeetham**

INTRODUCTION

In this assignment, we will see basic information of a programming language known as RUBY. We will also find answers to basic questions about RUBY,

First of all, Ruby is a popular, general-purpose programming language. Also, Ruby on Rails is one of the most popular web development frameworks in any programming language.

WHEN WAS RUBY CREATED?

RUBY was developed in the mid-1990s
by Yukihiro "Matz" Matsumoto in Japan

IDEA BEHIND RUBY

The creator Matsumoto wanted RUBY to be unique from other programming language. He developed it in such a way that it should be completely Object-Oriented and easy to use as a scripting language. Other languages like Python and Perl did not satisfy the criteria as Python is not fully object-oriented language and Perl comes under the category of Toy language.

The objective of Ruby's development was to make it act as a sensible buffer between human programmers and the underlying computing machinery.

SUPPORTED OS:

RUBY supports platforms like Windows, MacOS and also UNIX-like operating systems such as Linux, Solaris, FreeBSD

PARADIGM OF RUBY:

Ruby is dynamically typed and uses garbage collection and just-in-time compilation. It supports multiple programming paradigms, including procedural, object-oriented, and functional programming.

LANGUAGES WHICH INFLUENCED RUBY:

Ruby is based on many other languages like ***Perl***, ***Lisp***, ***Smalltalk***, ***Eiffel Lisp*** and ***Ada***. It is an interpreted scripting language which means most of its implementations execute instructions directly and freely, without previously compiling a program into machine-language instructions. Also, Ruby has similar syntax to that of many programming languages like C and Java, so it is easy for Java and C programmers to learn.

LANGUAGES INFLUENCED BY RUBY:

RUBY influenced many languages. Some of the major ones are ***Clojure, CoffeeScript, Crystal, D, Elixir and Groovy***. It also gave slight impact on languages like ***Julia, Mirah, Nu, Ring, Rust, Swift***.



“Hello World” PROGRAM SYNTAX:

Ruby is a highly flexible programming language. Developers coding in Ruby can make changes to the way the language itself works. It's an **interpreted** language like Python, rather than a compiled one like C or C++.

More specifically, Ruby is a scripting language designed for front- and back-end web development, as well as other similar applications. It's a robust, dynamically typed, object-oriented language, with high-level syntax that makes programming with it feel almost like coding in English. So, the syntax for hello world is pretty simple.

The Syntax is:

puts "Hello World"

Here, **puts** keyword is used to print anything on the screen.

NOTE:

The most widely used Ruby implementation is **CRuby**, also known as MRI (as in “Matz’ Ruby Interpreter”). It is an interpreter built on top of a custom virtual machine (YARV). Other interpreters that are used are **JRuby, and Rubinius.**

APPLICATION

1. WEB DEVELOPMENT

Ruby is used to create web applications of different sorts. Ruby as a programming language is a good choice to create all kinds of web apps. The main reason for this is its popular web development framework called **Ruby on Rails**. It gives everything for a developer to create a website in such a convenient manner. So, at the end of the day, web developers spend less time in configuring their projects.



2. STATIC SITE GENERATION:

Most websites use server-side code that generates HTML and serves it to your browser when you visit a page. There is no actual HTML file located at the URL you visited.

A static site generator still uses code, but it generates all the pages for a website at one time. Those pages are then deployed to a server, and when you visit a URL, you are served a static HTML file. Web sites built with static site generators are fast, efficient, secure, and easy to deploy. They're also useful for sites where content doesn't change frequently





3. DevOps AND AUTOMATION:

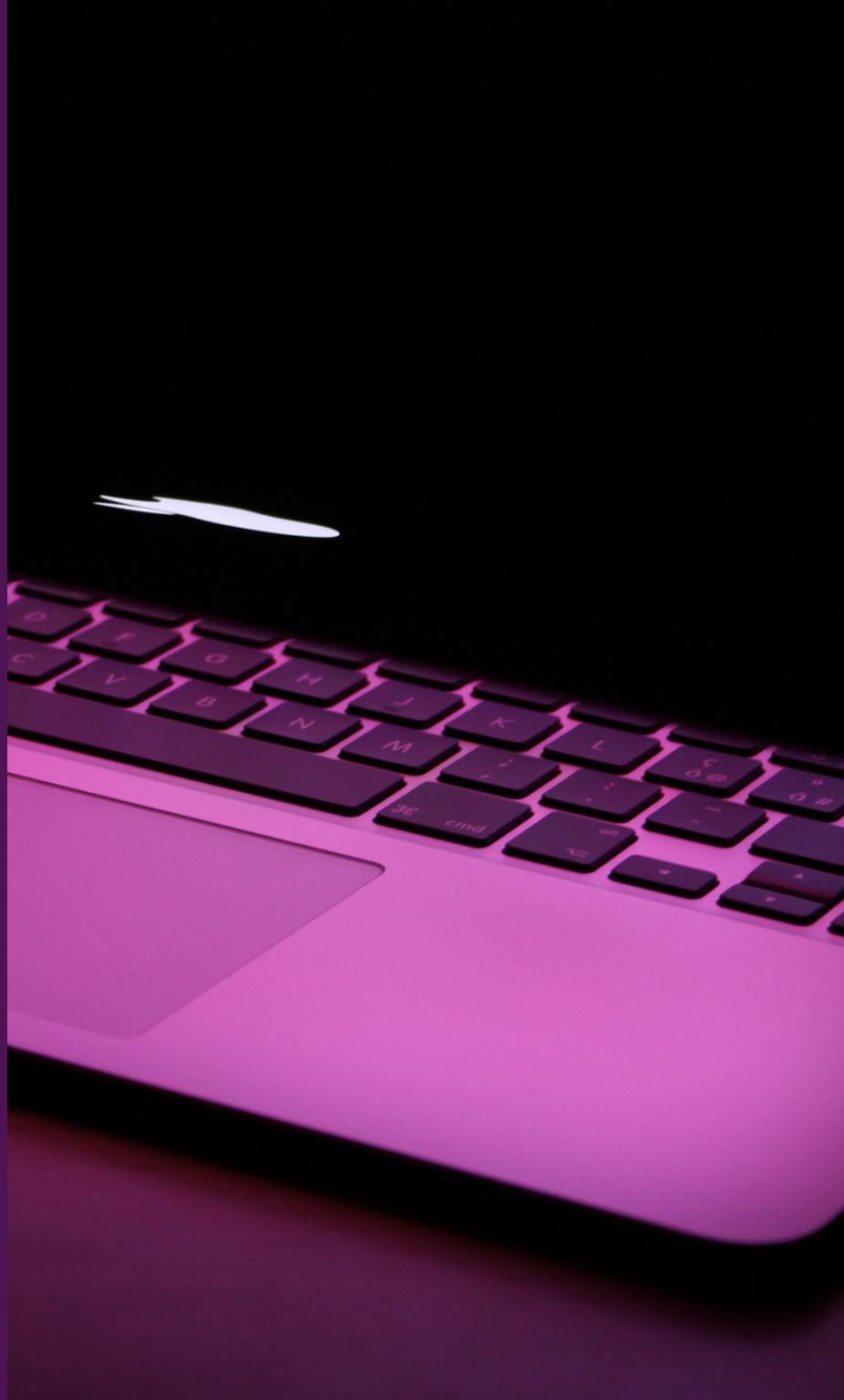
DevOps (a portmanteau of “development” and “operations”) is the combination of practices and tools designed to increase an organization's ability to deliver applications and services faster than traditional software development processes.

DevOps is complementary to agile software development; several DevOps aspects came from the agile way of working. Ruby is widely used for DevOps, automation, and website deployment.

Tools that have been made using Ruby like **Chef** and **Puppet** are used by DevOps engineers to automate and manage the configuration of web applications and servers.

4. WEB SERVERS

| You can also use Ruby to build web servers. **Passenger, Unicorn, and Puma** are web servers written in Ruby. They process raw incoming HTTP requests, send them to correct backend web applications, and then handle the HTTP response sent back from the application. Ruby web application servers work hand in hand with web development frameworks written in Ruby.





5. DATA PROCESSING

Ruby is also a great language for data processing, cleaning, and filtering. Ruby's built-in map, reduce, and select functions are powerful tools used to solve many data processing problems.

6. OTHERS

Presentations are tools that can be used as lectures, speeches, reports, and more. It is mostly presented before an audience.

THANK YOU

-ANANTH R
CB.EN.U4CYS22006