Software Engineering Tools Lab
Assignment No-2
(Module 2- Software Development Frameworks)

Name : Onkar Santosh Gavali

Prn No. : 2019BTECS00037

Name : Sadaf Najeem Mulla

Prn No. : 2019BTECS00038

Ruby on Rails

1. Original author
- David Heinemeier Hansson

2. Developers
- On the github, upto this data more than 4500 developers have contributed in RoR.(power of the open source)

3. Initial release
- August 2004

4. Stable release
- 6 January 2022

5. Preview release
- Till date, ruby on rails have 57 different releases (including minor and major updates), all releases information is available on there github page

6. Repository (with cloud support)
- https://github.com/rails/rails

7. Written in (Languages)
- It is written in the Ruby programming language and it also uses web standards like JSON or XML for transfer data and HTML, CSS and JavaScript for the user interface.

8. Operating System support
- Mac OS X, Linux, or Microsoft Windows operating systems

9. Platform ,portability
- It is a server-side web application development platform. Ruby is highly portable: It is developed mostly on GNU/Linux, but works on many types of UNIX, macOS, Windows, DOS, BeOS, OS/2, etc.

10.Available in (Total languages)
- It is written in the Ruby programming language and it also uses web standards like JSON or XML for transfer data and HTML, CSS and JavaScript for the user interface.

11.List of languags supported
- It supports multiple programming paradigms, including procedural, object-oriented, and functional programming. According to the creator, Ruby was influenced by Perl, Smalltalk, Eiffel, Ada, BASIC, and Lisp

12.Type (Programming tool, integrated development environment etc.)
- Rails is a web application development framework written in the Ruby programming language.
- The Rails philosophy includes two major guiding principles:
    - Don't Repeat Yourself: DRY is a principle of software development which states that "Every piece of knowledge must have a single, unambiguous, authoritative representation within a system". By not writing the same information over and over again, our code is more maintainable, more extensible, and less buggy.
    - Convention Over Configuration: Rails has opinions about the best way to do many things in a web application, and defaults to this set of conventions, rather than require that you specify minutiae through endless configuration files.

13.Website
- https://rubyonrails.org/

14.Features

- Symbol garbage collector
- Module #prepend
- Keyword arguments
- Action Mailer
- Action view
- Turbolinks
- Action cable
- Actionpack Assertions
- Rails API
- Render from anywhere
- Rake command
- Customized library
- AJAX library

15. Size (in MB, GB etc.)
- We can download release zip file which is around 10-12 mb
- https://github.com/rails/rails/releases/tag/v7.0.2

16. Privacy and Security
- Open-source software development frameworks, such as Ruby on Rails, are considered highly secure, and this is often quite true. Rails (particularly its latest versions, starting from 4.0) offers a number of built-in tools for fending off the vast majority of threats. However, forewarned is forearmed: developers should fully understand what kinds of vulnerabilities a Rails application might have
- Common Ruby on Rails Security Concerns
    - Cross-Site Scripting (XSS)
    - Preventing SQL Injection in Ruby on Rails
    - Avoiding CSRF Vulnerabilities in Ruby
    - Preventing Logging Vulnerabilities in Ruby on Rails
    - Protecting Your Ruby on Rails Code With Veracode

17. Type of software (Open source/License)
- Open source software.

18. If License- Provide details.
- Ruby on rails have MIT open souce license

- https://github.com/rails/rails/blob/main/MIT-LICENSE

19.Latest version
- 7.0.2.2

20.Cloud support (Yes/No)
- Yes
- As for Ruby on Rails, the apps created on it can be deployed via such cloud platforms as Heroku, Microsoft Azure, and Amazon Web Services S3 – all dedicated, in this case, to storing user downloads.

21.Applicability
- Airbnb, GitHub, SlideShare, Dribbble, Bloomberg, CrunchBase, and Shopify (to name a few) have also trusted Ruby on Rails and used it in their applications.
- 34 companies among the worlds top companies using Ruby on Rails in 2021
  - Airbnb
  - Crunchbase
  - Ask.fm
  - Dribbble.com
  - GitHub
  - Fiverr

22. Drawbacks (if any)
- Runtime Speed and Performance
  - Top environments and frameworks (Node.js or Django) are somewhat faster than RoR
  - Twitter struggled to improve RoR's performance that deteriorated after the social network became very popular.
- Lack of Flexibility
  - RoR is an opinionated framework with a lot of hard dependencies and modules included out of the box
- High cost of wrong decisions in development
  - Wrong architecture decisions during the initial stages of your project might cost you more in Rails than in any other framework

Q2. Implement linear regression problem using Google colab (Perform preprocessing,
training and testing)

Colab Link -
https://colab.research.google.com/drive/1uDPZkfb0DtoM5T8T2LakGipyEugKyw7-?usp=sharing