# CS 419 Compiler Projects Form

1. **Instructions to be Followed (for the Hard Copy):**
   1. Fill page **NO 4** with the required Fields:
      1. Project Idea: The **Idea** will be assigned to you .
      2. Team Members NO#: Number of team members **7**
      3. Table:
         * ID: Your FCIH ID.
         * Name: Your **Full Name** as registered on College’s Database.
         * Level & Department: Your **(Current)** level and department.
         * Section(Day-from-to): Your Section Day and time slot.
         * Role: Your role in project (**Team leader** OR **Member**).
         * Fill Page **NO 5 & 6** with your (**Regular Expressions**, **Finite automata**, **Parse trees** and **abstract syntax tree**) respectively.
2. **Minus Policies:**
   1. **Project Policy:** affects all projects members including team leader.
   2. **Member Policy:** affects a member of project’s members.
3. **General Notes:**
   1. Total grade of Project is 15
   2. **Deadline** to register yourself and your team on online form **Tuesday 05/04/2022 at 11:59 PM** after that **-2 Project Policy** will be applied**.**
   3. Once you Registered, **NO modifications** will be done.
   4. Allowed only on registration for team in form, duplication will got **-2 Project Policy.**
   5. Each group will be assigned **an Idea, ID and time slot** for **discussion**.
   6. Each team member and team leader in a team **must work in project’s coding phase** (including implementation of **finite automata and parse trees**).
4. **Discussion Notes:**
   1. **Copied Code** will be got ZERO Without Discussion.
   2. By references to Section 3 (General notes) Point V , **-5 Member policy** will be applied to each team member (including team leader) who does not participate in project coding phase **as well as the team leader who does not report this case**.
   3. Each team member must have **a complete knowledge** about the whole project
   4. **Evaluation** will be **Individual Evaluation** not project Evaluation.
   5. **-2 Project Policy** will be applied in case of being late for assigned discussion time slot
   6. **NO discussion will be repeated under any circumstances.**
   7. At Discussion day, in case of offline discussions, each team must have **Hard Copy form** including (**Finite automata and parse trees of team’s project**).
   8. Discussion Day will be **sent later** .

## Notes about Implementation:

* 1. **.Net or PHP** are only allowed.
  2. The project must be a Web (use latest technologies).
  3. Your code must be uploaded to github before discussion.
  4. **- 5 Project policy** will be applied in case of using **Built-in Method** within implementation of the scanner or parser, you must create your **own methods to match** for ex (your regular Expressions).
  5. Each Project must contain a full functional editor (comment, uncomment, put red line under wrong words, auto complete, navigation to function or class, line NO).
  6. Each Project must contain **two buttons** , one button called “**Scan**” to run scanner and other called “**Parse**” to run parser –parser must take output of scanner to do it’s task.
  7. Each project must contain a button named “**Browse**” that allows us to choose a **file from a disk** that allows us to parse or scan this file **Without Showing what is inside the file** and shows the output.
  8. – 3 Project policy will be applied if the content of the file that is mentioned in point V is opened or viewed.

## Notes about Discussion Testing:

* + There will be two types of Testing :

1. **White Box Testing:** This will be from **Editor**.
2. **Black Box Testing:** This will be from “**Browse**” Button

**Thanks,**

**CS 419 Compiler Project Form**

**Project Idea:**

………Project #1 Language………………………

**Team Members NO#:** ………27…………………………..

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ID** | **Name** | **Level& Department** | **Section(Day- from-to)** | **Role (Lead/Member)** | **Grade** |
| 201900456 | عبدالله السيد محمد على | 3 &(CS) | الأربعاء من 2 ل 4 | Lead |  |
| 201900421 | عبدالرحمن عبدالناصر حسن | 3 &(CS) | الخميس من 8 ل 10 | Member |  |
| 201900424 | عبدالرحمن على سعد على | 3 &(CS) | الخميس من 8 ل 10 | Member |  |
| 201900443 | عبدالرحمن ياسر حسانين | 3 &(CS) | الخميس من 8 ل 10 | Member |  |
| 201900405 | عبدالرحمن أشرف عبده | 3 &(CS) | الخميس من 8 ل 10 | Member |  |
| 201900428 | عبدالرحمن مجدي عفيفي | 3 &(CS) | الخميس من 8 ل 10 | Member |  |
|  |  |  |  |  |  |

## Regular Expression, Finite automata and Conversion from RegX to NFA, NFA to DFA

**Regular Expression**

(If , Else , low , Slow , ChIo , Chain , lowf , Slowf , Worthless , Loopwhen , Iteratewhen , Turnback , Stop , Loli , (+,-,\*,/,) ,

,(&& , || , ~) , (== , < , > , != , <= , >=) , (=) , -> , {,},[,] ,

, [0-9] any compination , “,’ , Include ) .

**NFA For Symbols**

**A picture containing chart

Description automatically generated**

**DFA For Symbols**

**Diagram

Description automatically generated**

**DFA for Reserved Words**

**A picture containing electronics

Description automatically generated**

**Parse tree and Abstract syntax tree**