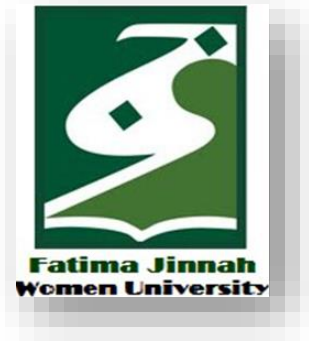*FATIMA JINNAH WOMEN UNIVERSITY*
Department of Computer Science

Project Report

STUDENT INFORMATION SYSTEM

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HEADER FILE:

- ❖ ***#include<stdio.h>:*** Stdio.h is a header file for standard input and output. This header file allows us to conduct input and output operation in C. Stdio.h contain declaration of printf() and scanf().
- ❖ ***#include<stdlib.h>:*** Stdlib.h is a header file for standard library. This header file contain function of memory allocation, mathematical functions, string conversions, file input output function and error handling functions.
- ❖ ***#include "student.data.h":*** We can also create custom header files in C. We declare so what we organize our code and reuse our code by separating it in different files.

STRUCTURES:

- ❖ A structure is defined using keyword "struct".
- ❖ Structure is a user defined data in C language which alow us to combine data of different types together.
- ❖ Structures (also called struct) are way to group several related variables into one place.
- ❖ Each variable in the structure is known as the member of the structure.
- ❖ Unlike an array, a structure can contain many different data types (int, float, char etc.)
- ❖ In this program we make a struct student which contains:
    - ➢ char name [15];
    - ➢ char father_name [20];
    - ➢ char phone_no [30];
    - ➢ char grade [5];
    - ➢ char address [40];
    - ➢ int attendance;
    - ➢ int roll number;
    - ➢ float marks;

MAIN FUNCTION:

- ❖ In main function firstly we declare variables select and count and initialize with zero and then we declare an array to get 50 students information.
- ❖ Then we use do while loop in which the body executes at least one time even the condition is wrong.
- ❖ After loop we display menu of student information system, 1 for adding student information, 2 for displaying student information and 3 for exit.
- ❖ After displaying menu we use switch statement to check user's choice, if user select 1 then function add student is call, if user select 2 then function display student is called, and for 3 the output shows exiting program Good Bye. In default, if none of the condition is matched then it shows invalid choice please try again.

- ❖ In the end of the program we call data( ) that is defined in header file **student.data.h**. In this function data gives output in the last that program runs successfully.

FUNCTIONS:

- ❖ *Function 1:* In function 1 add student two arguments were passed from the main function that includes *student and count. This function gets student information like name, phone number, grade, marks, father name, roll number, attendance and home address. Student information is stored in a file named abc.txt.
- ❖ *Function 2:* In the function display student two arguments were passed from main function that include *student and count. In this function we use for loop and when this loop terminates it print student information like name, father name, roll no, marks, phone no, grade, address and attendance.

FILE HANDLING:

- ❖ *Writing File:* The fprintf( ) function is used to write characters into file. It sends formatted output to the stream.
- ❖ *Opening File:* We must open a file before it can be read write and update. For opening a file we use fopen( ) function. The fopen( ) function aceepts three parameters:
  - ➢ We provide address of the file which we are going to use in the program.
  - ➢ The file name (string). If the file is stored at some specific location, then we must mention the path at which the file is stored. For example a file name can be like "C:\\Some Folder\\Some File.txt".
  - ➢ The mode in which file is to be opened. It is a string. "w" is used for writing, "r" is used for reading, "a" is used for append and "wb" is used for writing in binary form.
- ❖ *Closing File:* The fclose( ) function is used for closing a file. The file must be closed after performing all the operations on it.