**Introduction**

We have been given the task for this assignment to create a hospital operation scheduler. This programme will store data for a health professional and will allow them to have their own electronic diary which will allow them to record the details of any patient appointments that the health professionals might have. The programme will also allow the user to search across the diaries of several health professionals and allow them to see a set of times and dates so that they could schedule appointments, and if an operation is required the programme should allow multiple doctors and nurses to be booked at the same time.

**Class Design**

**A screenshot of a cell phone

Description automatically generated**

**Requirements**

Must store details about Health Professionals. This will be their name, profession, and work location

Must let the user add, delete and edit entries in the data store

Must create an electronic diary for each Health Professional which will allow them to record their patient appointments and treatments.

Each Health Professional will have their own diary

The diary must record: the date of the appointment, the start time of the appointment, the end time of the appointment and the treatment type e.g.: Coronavirus testing

Must provide the option to display the list of diary entries

Must provide the option to save and restore diary entries to and from a file on the disk

Must provide the ability to search for and schedule a patient appointment

Must accept a range of health professionals who could be involved in the appointment

Must provide a start date to search from, an end time to search up to

Must allow the user to identify patient appointments that various Health Professionals, e.g. doctor/nurse, can attend

Must display the start and end time for each appointment.

Must allow the user to select the desired appointment slot and place the patient appointment in all the diaries of all the selected health professionals

Must provide an undo feature i.e. undo the last entry added, edit a diary entry, and delete a diary entry

Must be programmed in Java and use data structure developed from first principles or data structures from the Java Collection class library

As a team, we will tackle all of these requirements and if we have the time and confidence, we will tackle some of the optional requirements

**Justification of Data Structures**

We are using an Array List because it lets us use indices in our code instead of objects which are often harder to work with when considering data stored in a list

We are using Stacks because so we can push instances to the stack whenever we make a change and pop to undo that change

**Team Allocations**

Scheduler class- Ethan

Health Professional class - Aidan

Diary class- Ruth

Appointment class- Eilidh