**Phase IV - 250 points – Due date – Dec 16 – Nothing accepted late!**

In this phase of the project, you will create reports that will run against the data in the arrays. Before you begin these reports, you should print out the Phase II document that lists the contents of the data files which have been read into the arrays. In many cases, you will need three loops (a loop within a loop, within a loop) to run the reports explained here.

* In your phase III project, change the name of “Report 4”, “Report 5”, to the titles listed below.
* I have provided some guidance on how to approach the coding of the requested reports in the “Specifications for printing” section for each report definition
* When you run the report, you must print a title above the data that lists when your report runs
* Examples of reports with three loops will be provided in a few days (reports 4 and 5 can be done with only one loop because the needed data only comes from one set of arrays)
* For report #9, in a few days, I will provide examples or comparing strings for greater than and less than a desired value

**What to turn in (2 documents)**

1. **Create a word document with you name and source code. Then copy each of the 10 reports (first 3 were done in Phase II) running to the word document.**
2. **Turn in your source code as a separate file**

***PLEASE NOTE:* You can not begin this phase unless you understand how the data in the three sets of parallel arrays are connected. Please study the contents of the arrays as requested above.**

**Reports to Code:**

1. **All Doctors of a specific specialty**

Details to Print:

* Report Title
* Doctor number, Doctor first name, Doctor last name

Specifications for printing: Prompt for the specialty. Search the Doctor arrays for a match on that specialty and when there is a match, print the Doctor number, Doctor first name and Doctor last name

1. **All Senior patients**

Details to print:

* Report Title
* Patient number, patient first name, patient last name, patient age
* Message “Balance is past due”

Specifications for printing: Search the patient arrays if a patient is older than 60, print the patient number, patient first name and patient last name. Also, print a message “Balance s past due” if the current balance is greater than $100

1. **All Appointments information for a Specific Patient**

Details to Print:

* Report Title
* patient number, patient first name, patient last name, patient age, appointment date, appointment cost, Doctor first name, Doctor last name and Doctor specialty

Specifications for printing: Prompt for a patient number. Search the patient arrays and if there is a match, print the patient number, patient first name, patient last name and patient age. Then search the medical arrays and when there is a match on the patient number between the patient arrays and the medical arrays, print the appointment date and the appointment costs. Then search the doctor arrays and when there is match on the medical arrays and the doctor arrays, and print the Doctor first name, Doctor last name and Doctor specialty

1. **All Appointments for a Specific Doctor**

Details to Print:

* Report Title
* Doctor number, Doctor first name, Doctor last name, Appointment date, Appointment cost, Patient number, patient first name, patient last name
* Total fees (cost) due to the Doctor

Specifications for printing: Prompt for a Doctor number. Search the doctor arrays and if there is a match, print the doctor number, doctor first name, doctor last name. Then search the medical arrays and when there is a match on the Doctor number from the doctor arrasy and the doctor number from the medical arrays, print the appointment date and the appointment cost (keep a running total of the costs of the appointment). Then search the patient arrays and where there is a match on the patient number in the patient arrays and patient number in the medical arrays, , print the patient first name and patient last name. Finally print the total of the cost due to the Doctor

1. **Total Fees (costs) Owed by a specific Patient**

Details to Print:

* Report Title
* Patient number, Patient first name, Patient last name, patient balance, appointment date, appointment cost, Doctor number, Doctor first name, Doctor last name, total balance

Specifications for printing: prompt for a patient number. Search the patient arrays and when there is a match, print the patient number, patient first name and patient last name. Then search the medical arrays and when there is a match on the patient number from the medical arrays and the patient number in the patient arrays, print the appointment date and the appointment cost. (keep a running total of the appointment cost) Then search the Doctor arrays and when there is a match on the Doctor number in the medical arrays and the doctor number in the doctor arrays print the Doctor number, Doctor first name and the Doctor last name. Finally add the patient balance to the running total and print that amount as the total balance

1. **All Appointments for a specific date**

Details to Print:

* Report Title (including the Beginning appointment date, ending appointment date)
* Medical appointment date, appointment cost, patient number, patient first name, patient last name, Doctor number, Doctor first name, Doctor last name

Specifications for printing: prompt for the Search the medical arrays for appointments on that date. When a date is found that meets these specifications, print the appointment date and the appointment cost. Then search the patient arrays, when there is a match between the patient number in the patient arrays and the patient number in the medical arrays, print the patient number, patient first name and patient last name. Then search the Doctor arrays and where there is a match between the doctor number in the medical arrays and the doctor number in the doctor arrays, print the doctor number, doctor first name and doctor last name