QUIZ 6 – IPC Pipes

Q1. Write a C Program for pipe implementation for the following situation.

1. We have a parent process that accepts data for database queries from a user and fills the following structure.
2. The parent process then sends this query to the child process by forming a single string to send on a pipe. For example, the qry_id field will be converted from 5 digit number to 5 char string. You need to pad zeros if it has less than 5 digits when converted to a string.
3. Upon receiving each query string, the child process will send some char as an acknowledgment to the parent process (i.e., implement synchronous mode) to indicate that it has received the query and display the query.
4. Upon receipt of the acknowledgment of the query, the parent will send the next query to the child if already entered by a user, otherwise wait for the user to enter a new query.

```
struct {
        int qry_id;        // 0 to 99999
        char[50] qry_text;
}
```

Q2. Q1 can be expanded to have 3 child processes, each accepting the query from parent processes on a different pipe. Since it not possible to have multiple queries entered in a short time by user, the parent process can read the queries from the text file and send the queries to child processes in a round-robin order. That is the first query to the first child, the second query to the second child, the third query to the third child, the fourth query to again the first child, the fifth query again to the second child, and so on.