**AIM:**

***To create and maintain a database of all the past,present and future contracts from all over the globe for an aviation manufacturing firm.***

**DATA STRUCTURES USED:**

***We have used three queues to store and maintain the contracts where the main queue will contain the records as the contracts are being finalised.The other two queues are qpending and qcompleted .***

***The completed contracts are removed from the main q and enqueued into the qcompleted queue and the pending contracts are enqueued into the qpending queue.***

***Each node in all the queues contain:***

* ***char CountryName[30];***
* ***float estimated\_budget;***
* ***float sealed\_budget;***
* ***char Aircraft\_Name[30];***
* ***int no\_of\_years;***
* ***char Priority\_Delivery;***
* ***char signing\_date[12];***
* ***int delivery\_date;***
* ***struct node\* next;***

***Where countryname data member contains the name of the country which has given the contract,***

***estimated \_budget contains the budget proposed by the company,***

***Sealed\_budget contains the final budget after negotiations, to which the final deal has been signed ,***

***Aircraft\_name contains the name of the aircraft which has been specified in the contract,***

***No\_of\_years contains the approximate time duration for the delivery of the product,***

***Priority\_delivery specifies the priority level of the contract,if it is a priority deal, then the overall budget increases by 20% and the time duration decreases by 30%,***

***Signing\_date contains the date on which the contract was finalised,***

***And the delivery\_date contains the estimated delivery of the product based on the aircraft model and the number of aircrafts ordered.***

**PROTOTYPES OF THE FUNCTIONS USED:**

* ***void Enqueue(char country\_name[],float est\_bud,float seal\_bud,char Air\_Name[],int no\_of\_y,char Priority,char sign\_dat[],struct queue\* q)***

***function to assign the variables with user entered information.***

* ***void QueueEnqueue(struct node\* p ,struct queue\* q1)***

***function to assign queue where just one queue is the argument.***

* ***void CopyQueue(struct queue\* q1,struct queue\* q2)***

***function to copy one queue to another.***

* ***void Display\_Queue(struct queue\* q)***

***function to display the contents of a queue.***

* ***void Dequeue(struct queue\* q)***

***function to delete the element at the front of the queue.***

* ***void enter\_data(struct queue \*q)***

***function to take user input.***

* ***void checker(struct queue\* q,struct queue\* q1,struct queue\* q2)***

***function that checks if contracts have been completed .***

* ***void find\_country(char country\_name[],struct queue\* q)***

***function to print the details of the contract with name of country entered.***

* ***void getCurrentDate(struct Date \*d)***

***function to extract system date.***

* ***void displayDate(struct Date \*d)***

***function to display date.***

* ***void alert(struct queue\* q,struct Date\* d)***

***alert function to alert when contracts have gone beyond due date.***

**LEARNING OUTCOMES:**

* ***We have learnt to implement modularity by using various functions in the program.***
* ***We have learnt to use queue data structure efficiently and to perform the associated operations such as enqueue,dequeue,display using functions.***
* ***We have learnt to get the current date from the system and manipulate it in the process.***
* ***We have learnt to use the appropriate data structure which would be apt to represent the real-world situation.***

**RESULT:**

**We have successfully created and maintained a database management system for an Aviation Manufacturing Company using above specified functions and data structures.**

**PROJECT SCREENSHOTS-**









