#include <stdio.h>

#include <stdlib.h>

//code all necessary include's

//structures needed

struct customer

{

};

struct tool

{

};

struct transaction

{

};

//add alll required prototype

//organize them by section: customer, tool, transaction

//define any needed var

int main()

{ //declarae the necessary arrays of objects

 //==>array of 100 customers

 //==>array of 100 tools

 //==>array of 100 transactions

 //define any working variables

 //start a main loop

 //call main menu

 //switch on Moption

 //for every case, call related menu and switch on that option:

 //embed another loop for each of the menus so you can stay with a menu until user select to go back

 while(Moption != 4)

 {

 Moption = mainMenu();

 switch(mainOption)

 {

 case 1: while (Coption != 3)

 {

 switch(coption)

 {

 //3 cases

 }//end switch coptiuon

 }//end while coption

 case 2: while(Toption != 3)

 {

 Toption = ToolMenu()

 switch(Toption)

 {

 //3 cases

 }//end switch toption

 }//end while toption

 case 3: while(TransacOPtion != 4)

 {

 TransacOption = TransactionMenu();

 switch(TranscOption)

 {

 //4 cases

 }//end TransacOption

 }//end while TransacOPtion

 }//end mainoption

 }//while mainoption

 //program is done

 return 0;

}//end main()

//========================necessary menus==============

???? mainMenu()

{

 //display the required options

 //get option

 //return option assume it is called Moption

}//end mainMenu

//======================================================

???? CustMenu()

{

 //display the required options

 //get option

 //return option assume it is called Coption

}//end custmenu

//======================================================

???? ToolMenu()

{

 //display the required options

 //get option

 //return option assume it is called Toption

}//end ToolMenu

//=======================================================

???? TransactionMenu()

{

 //display the required options

 //get option

 //return option assume it is called Transoption

}//end TransactionMenu

//========================================================

//========================function that process a customer=========

????getCustomer(????)

{

 //input attributes

 //validate each input using a validation function coded later

}//end getCustomer

//=======================================================

????dispCustomer(????)

{

 //display a customer attributes in a readable friendly format

}//end dispCustomer

//=======================================================

????searchCustomer(????)

{

 //search for a customer ID

 //retunr -1 if not found or position where it was found

}//end search Customer

//========================================================

????validateCustomerID(????)

{

 //validate

 //return true or false

}//end validateID

//=========================================================

????validateName(????)

{

 //validate for all letters either first or last

 //return true/false

}//end validateName

//==========================================================

????validatePhone(????)

{

 //validate

 //return true or false

}//end validatePhone

//===========================================================

????validateEmail(????)

{

 //make sure of the one @ presence, its position

 //assume the only valid extension is the .com

 //return TRue/False

}//end validateEmail

//add any other function needed for4 customers here

//===================================================functions to [process a tool

????getTool(????)

{

 //get the attributes

 //validate each using funttion to be coded next

}//end getTool

//===================================================

????dispTool(????)

{

 //display all attributes of a tool

 //in a good friendly format

}//end dispTool

//===================================================

????searchTool(????)

{

 //search and if found return position otherwise return -1

}//end searchTool

//====================================================

????validateToolID(????)

{

 //validate for all allowed char and length

 //return true or false

}//end valdiateToolID

//====================================================

????validateToolType(?????)

{

 //validate for spaces and letters

}//end validateToolType

//====================================================

????validateRentalFees(????)

{

 //validate a real number period and two decimals

 //return true/false

}//end validateRentalFees

//=====================================================

//add any other function to may need for tools

//==================================================functions that process transactions

????InitiateTransaction(?????)

{

 //in main , prompt user for Cust ID, search for it and if found:

 //prompt user for Tool ID and if found and NOT rented then proceed to ask for rental term

 //if full day apply correct fees and store 'F' under rental term if half day apply fees and store 'H' for half day

 //then store all values / record in the transaction using current pointer location ...passed to this function

}//end InitiateTransaction

//=====================================================

????dispTransaction(?????????????)

{

 //if a transaction is found via the related search

 //then display everything about the customer and the tool and the transaction

}//end dispTransaction

//======================================================

????SearchTransaction(?????)

{

 //search by Cust ID or Tool ID ...thsi information should be provided to this search

 //or you may want to code two different fucntions ...one to search by Cust ID and another one to search by Tool ID

 //function return true/false

}//end SearchTransaction

//======================================================

????reportAllTransactions(??????????????)

{

 //display all: all transaction

 //may not be necessary as you can recycle the dispTransaction() and embed the call within a loop from main

 //it is up to you

}//end reportAllTransaction

//add any other function that deals with the transaction

//================================================================================================================================