#include <stdio.h> #include <stdlib.h> int main(){ struct reader{ int id; char name[20]; char due; int dbid; } rdr[10]={0}; struct book{

int id; char name[30]; char author[20]; char avbl; int rid; } bk[20]={0}; int choice, searchid, searchid1, n, m, i; printf("\n\t\tWELCOME!\n"); do{ printf("\n\tLibrary Management System\n\t=========================\n1. Add

a new book\t\t2. Search book\n3. Add new reader\t4. Search reader\n5. Issue book\t\t6. Submit book\n7. Delete book\t\t8. Delete reader\n9. List of books\t10. Exit\n\nEnter your choice: "); scanf("%d", &choice); switch(choice){ case 1:

for( i=0; i<20; i++){ if (bk[i].id==0){ printf("Enter name of the book: "); scanf("%s", bk[i].name); printf("Enter name of the author: "); scanf("%s", bk[i].author); printf("Enter book ID: "); scanf("%d", &bk[i].id); bk[i].avbl='y'; bk[i].rid=0; i=20; printf("Book added successfully.\n\n"); }

}break; case 2:

printf("Enter book ID: "); scanf("%d", &searchid); n=0; for( i=0; i<20; i++){ if (searchid == bk[i].id){ printf("\n\tBook Information\nBook ID: %d\tBook Name: %s\nAuthor Name: %s\nAvailable: %c\tDue by Reader ID: %d\n", bk[i].id, bk[i].name, bk[i].author, bk[i].avbl, bk[i].rid);

n++; }

}if(n==0){ printf("Book not found.\n\n");

}break; case 3:

for(i=0; i<10; i++){ if (rdr[i].id==0){ printf("Enter Reader's name: "); scanf("%s", rdr[i].name); printf("Enter Reader id: "); scanf("%d", &rdr[i].id);

rdr[i].due='n'; rdr[i].dbid=0; i=10; printf("Reader added successfully.\n\n"); }

}break; case 4:

printf("Enter Reader ID: "); scanf("%d", &searchid); n=0; for(i=0; i<10; i++){ if (searchid==rdr[i].id){ printf("\n\tReader Information\nReader ID: %d\tReader Name: %s\nDue: %c\t\tDue book ID: %d\n", rdr[i].id, rdr[i].name, rdr[i].due, rdr[i].dbid); n++; }

}if(n==0){ printf("Reader not found.\n\n");

} break; case 5:

printf("Enter book ID: "); scanf("%d", &searchid); printf("Enter reader ID: "); scanf("%d", &searchid1); n=0; m=0; for(i=0; i<20; i++){ if (searchid==bk[i].id && bk[i].avbl=='y'){ bk[i].avbl='n'; bk[i].rid=searchid1; n++; i=20;

}

}for(i=0; i<10; i++){ if (searchid1==rdr[i].id && rdr[i].due=='n'){ rdr[i].due='y'; rdr[i].dbid=searchid; m++; i=10;

}

}if(n==1 && m==1){ printf("Book issued successfully.\n\n");

}else if(n==1 && m==0){ for( i=0; i<20; i++){ if (searchid==bk[i].id){ bk[i].avbl='y'; bk[i].rid=0; i=20;

}

}printf("Book not issued.\nReader has a due book.\n\n");

}break; case 6:

printf("Enter book ID: "); scanf("%d", &searchid); for(i=0; i<20; i++){ if (searchid==bk[i].id){ bk[i].avbl='y'; searchid1=bk[i].rid; bk[i].rid=0;

}

}for(i=0; i<10; i++){ if (searchid1==rdr[i].id){ rdr[i].due='n'; rdr[i].dbid=0;

}

}printf("Book ID %d submitted successfully.\n\n", searchid); break; case 7:

printf("Enter book ID to be deleted: "); scanf("%d", &searchid); n=0; for(i=0; i<20; i++){ if (searchid==bk[i].id){ for(i=i; i<20; i++){ bk[i]=bk[i+1];

}n++;

}

}if(n!=0){ printf("Book ID %d deleted.\n\n", searchid);

}else printf("Book not found.\n\n");

break; case 8:

printf("Enter reader ID to be deleted: "); scanf("%d", &searchid); n=0; for(i=0; i<10; i++){ if (searchid==rdr[i].id){ for(i=i; i<10; i++){ rdr[i]=rdr[i+1];

} n++;

}

}if(n!=0){ printf("Reader ID %d deleted.\n\n", searchid);

}else printf("Reader not found.\n\n");

break; case 9: n=0; for( i=0; i<20; i++){ if(bk[i].id != 0){ n++;

}

}printf("\n\t\tBook list\tTotal books:

%d\n\nID\tName\t\t\tAuthor\t\t\tAvailable\tReader ID\n\n", n); for( i=0; i<20; i++){ if(bk[i].id != 0){ printf("%d\t%s\t\t%s\t\t%c\t\t%d\n", bk[i].id, bk[i].name,

bk[i].author, bk[i].avbl, bk[i].rid);

}

}break; case 10:

printf("\n\tTHANK YOU!"); exit(0);

break; default: printf("CHOICE NOT FOUND!! Please enter choice between 1 and

10.\n\n");

} }while(choice!=10); return 0;

}