#include <stdio.h>

#include <stdlib.h>

struct Patient {

char name[50];

int priority;

int arrival;

struct Patient\* next;

};

struct Patient\* createPatient(char name[], int priority, int arrival) {

struct Patient\* newPatient = (struct Patient\*)malloc(sizeof(struct Patient));

strcpy(newPatient->name, name);

newPatient->priority = priority;

newPatient->arrival = arrival;

newPatient->next = NULL;

return newPatient;

}

void insertPatient(struct Patient\*\* head, char name[], int priority, int arrival) {

struct Patient\* newPatient = createPatient(name, priority, arrival);

if (\*head == NULL || priority < (\*head)->priority || (priority == (\*head)->priority && arrival < (\*head)->arrival)) {

newPatient->next = \*head;

\*head = newPatient;

} else {

struct Patient\* curr = \*head;

while (curr->next != NULL &&

(priority > curr->next->priority || (priority == curr->next->priority && arrival >= curr->next->arrival))) {

curr = curr->next;

}

newPatient->next = curr->next;

curr->next = newPatient;

}

}

void printTreatmentOrder(struct Patient\* head) {

printf("Treatment Order:\n");

while (head != NULL) {

printf("Name: %s, Priority: %d, Arrival: %d\n", head->name, head->priority, head->arrival);

head = head->next;

}

}

int main() {

struct Patient\* head = NULL;

int n;

printf("Enter the number of patients: ");

scanf("%d", &n);

for (int i = 0; i < n; i++) {

char name[50];

int priority, arrival;

printf("Enter patient name: ");

scanf("%s", name);

printf("Enter patient priority (1 for highest, 2 for second highest, and so on): ");

scanf("%d", &priority);

printf("Enter arrival time (in 24-hour clock format): ");

scanf("%d", &arrival);

insertPatient(&head, name, priority, arrival);

}

printTreatmentOrder(head);

return 0;

}

