

Problem 1

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#include <stdio.h>
#include <string.h>
#define MAX 100
typedef struct {
    char name[50];
    int age;
    char destination[50];
} Passenger;

void sortPassengers(Passenger p[], int n) {
    Passenger temp;
    for (int i = 0; i < n - 1; i++) {
        for (int j = i + 1; j < n; j++) {
            if (strcmp(p[i].destination, p[j].destination) > 0) {
                temp = p[i];
                p[i] = p[j];
                p[j] = temp;
            }
        }
    }
}

void searchPassengers(Passenger p[], int n, char dest[]) {
    int found = 0;
    for (int i = 0; i < n; i++) {
        if (strcmp(p[i].destination, dest) == 0) {
            printf("%s\n", p[i].name);
            found = 1;
        }
    }
    if (!found) {
        printf("No passengers traveling to %s\n", dest);
    }
}

int main() {
    int n;
    Passenger passengers[MAX];

    printf("Enter number of passengers: ");
    scanf("%d", &n);

    for (int i = 0; i < n; i++) {
        printf("Passenger %d: ", i + 1);
        scanf("%s %d %s", passengers[i].name, &passengers[i].age,
passengers[i].destination);
    }
    sortPassengers(passengers, n);
}
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printf("\nSorted List (by destination):\n");
for (int i = 0; i < n; i++) {
    printf("%s • %s\n", passengers[i].name, passengers[i].destination);
}
char searchDest[50];
printf("\nEnter destination to search: ");
scanf("%s", searchDest);
printf("Passengers traveling to %s:\n", searchDest);
searchPassengers(passengers, n, searchDest);
return 0;
}

```

Problem 2.

```

#include <stdio.h>
#include <string.h>

void findPattern(char dna[], char pattern[]) {
    int count = 0;
    int dnaLen = strlen(dna);
    int patternLen = strlen(pattern);
    for (int i = 0; i <= dnaLen - patternLen; i++) {
        if (strncmp(&dna[i], pattern, patternLen) == 0) {
            count++;
        }
    }
    printf("Pattern found %d time(s) in the DNA sequence.\n", count);
}

int main() {
    char dna[100], pattern[20];
    printf("Enter DNA Sequence: ");
    scanf("%s", dna);
    printf("Enter pattern to search: ");
    scanf("%s", pattern);
    findPattern(dna, pattern);
    return 0;
}

```

Problem 3.

```

#include <stdio.h>

int main() {
    int n, i, highest, lowest, sum = 0;
    float average;
    printf("Enter the number of matches: ");
    scanf("%d", &n);
    int scores[n];
    printf("Enter scores of %d matches: ", n);
}

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for (i = 0; i < n; i++) {
    scanf("%d", &scores[i]);
    sum += scores[i];
}
highest = lowest = scores[0];
for (i = 1; i < n; i++) {
    if (scores[i] > highest)
        highest = scores[i];
    if (scores[i] < lowest)
        lowest = scores[i];
}
average = (float)sum / n;
printf("\nHighest Score: %d", highest);
printf("\nLowest Score: %d", lowest);
printf("\nAverage Score: %.2f\n", average);
return 0;
}

```