```c
//RA2211003012027 Assignment 3 S2
#include <stdio.h>
union SharedMemory_12027 {
    int intValue_12027;
    float floatValue_12027;
    char stringValue_12027[20];
};
int main() {
    union SharedMemory_12027 data_12027;
    data_12027.intValue_12027 = 42;
    printf("Stored integer value: %d\n", data_12027.intValue_12027);
    data_12027.floatValue_12027 = 3.14;
    printf("Stored float value: %.2f\n", data_12027.floatValue_12027);
    sprintf(data_12027.stringValue_12027, "Hello, Union!");
    printf("Stored string value: %s\n", data_12027.stringValue_12027);
    printf("Retrieved integer value: %d\n", data_12027.intValue_12027);
    printf("Retrieved float value: %.2f\n", data_12027.floatValue_12027);
    printf("Retrieved string value: %s\n", data_12027.stringValue_12027);
    return 0;
}
```

```c
//RA2211003012027 Assignment 3 L2
#include <stdio.h>
struct Student_12027 {
    int id_12027;
    char name_12027[50];
    float gpa_12027;
};
void displayStudents_12027(struct Student_12027 students_12027[], int n_12027) {
    printf("Student Information:\n");
    for (int i_12027 = 0; i_12027 < n_12027; i_12027++) {
        printf("ID: %d, Name: %s, GPA: %.2f\n",
students_12027[i_12027].id_12027, students_12027[i_12027].name_12027,
students_12027[i_12027].gpa_12027);
    }
    printf("\n");
}
void displayHighestGPA_12027(struct Student_12027 students_12027[], int n_12027)
{
    float maxGPA_12027 = students_12027[0].gpa_12027;
    int index_12027 = 0;
    for (int i_12027 = 1; i_12027 < n_12027; i_12027++) {
        if (students_12027[i_12027].gpa_12027 > maxGPA_12027) {
            maxGPA_12027 = students_12027[i_12027].gpa_12027;
            index_12027 = i_12027;
        }
    }
    printf("Student with the highest GPA:\n");
    printf("ID: %d, Name: %s, GPA: %.2f\n\n",
students_12027[index_12027].id_12027, students_12027[index_12027].name_12027,
students_12027[index_12027].gpa_12027);
}
void displayLowestGPA_12027(struct Student_12027 students_12027[], int n_12027)
{
    float minGPA_12027 = students_12027[0].gpa_12027;
    int index_12027 = 0;
    for (int i_12027 = 1; i_12027 < n_12027; i_12027++) {
        if (students_12027[i_12027].gpa_12027 < minGPA_12027) {
            minGPA_12027 = students_12027[i_12027].gpa_12027;
            index_12027 = i_12027;
        }
    }
    printf("Student with the lowest GPA:\n");
    printf("ID: %d, Name: %s, GPA: %.2f\n\n",
students_12027[index_12027].id_12027, students_12027[index_12027].name_12027,
students_12027[index_12027].gpa_12027);
}
int main() {
    struct Student_12027 students_12027[10];
    int n_12027;
    printf("Enter the number of students (up to 10): ");
    scanf("%d", &n_12027);
    if (n_12027 > 10 || n_12027 < 1) {
        printf("Invalid number of students. Exiting...\n");
        return 1;
    }
    for (int i_12027 = 0; i_12027 < n_12027; i_12027++) {
        printf("Enter details for student %d:\n", i_12027 + 1);
        printf("ID: ");
        scanf("%d", &students_12027[i_12027].id_12027);
        printf("Name: ");
        scanf("%s", students_12027[i_12027].name_12027);
        printf("GPA: ");
        scanf("%f", &students_12027[i_12027].gpa_12027);
    }
```

```
        displayStudents_12027(students_12027, n_12027);
        displayHighestGPA_12027(students_12027, n_12027);
        displayLowestGPA_12027(students_12027, n_12027);
        return 0;
}
```