

Procedure List Full Time Students

```
FOR each file DO
    WHILE fscanf(file, "%s %s %s %s", first_name, last_name, id, course_type)
equals 4 DO
        IF strcmp(course_type, "Full_Time") equals 0 THEN
            // allocate memory for new array of names
            char **new_names = malloc((num_names + 1) * sizeof(char *))
            strcpy(new_last_name, last_name)
            // Add new_last_name to the end of new_names array
            new_names[num_names++] = new_last_name
        END IF
    END WHILE
END FOR
// Sort the names array in alphabetical order
merge_sort(names, 0, num_names - 1);
// Print out all full-time students
FOR i = 0 to num_names - 1 do
    printf("%s\n", names[i]);
END FOR
// Free memory used by names array
FOR i = 0 to num_names - 1 do
    free(names[i]);
END FOR
free(names);
```

END Procedure List Full Time Students

Modified version used in the program

START Procedure List Full Time Students

 char course = "Full_Time"

 FOR i from 0 TO size -1 DO

 IF DT[i].course equals student_type THEN

 Print "Student Number" + i + 1

 Print "Firstname" + DT[i].firstname

 Print "Surname" + DT[i].surname

 Print "ID" + DT[i].ID

 Print "Course" + DT[i].course

 END IF

 END FOR

END Procedure List Full Time Students