**Regras:**

1. Se este template não for submetido e preenchido corretamente, será atribuída a cotação zero ao laboratório;
2. Não se esqueça de submeter a pasta com o projeto do laboratório (código-fonte + makefile); sem código é atribuído zero ao laboratório.
3. Não “falsifique” os outputs dos níveis; alguma situação dessas resultará na atribuição de zero a dois laboratórios consecutivos.

# Identificação Alunos

* 190221093 | Alexandre Coelho
* 190221128 | Sérgio Veríssimo

# Nível 1 – Código de teste + output

# Nível 2 – Código de teste + output

char\* name = "Alexandre Veríssimo";

int number = 190221093;

Student newStudent = studentCreate(number, name);

Grade newGrade = gradeCreate(number, name, 20);

Grade gradeVector[10];

char\* names[10] = {"Hugo Vieira", "Maria Carvalho", "Joaquim Dinis", "Henrique Ferreira",

"Margarida Mourato", "Diogo Carreira","Ana Marques", "Manuel Quintino", "Joana Firmino", "Lara Pires"};

const int studentNumbers[10] = {145678478,193498649,190530864,156978458,146978478,185678478,

175678458,135674468,145678479,165678478};

const float results[10] = {

10.40,16.35,09.50,17.40,06.45,12.80,14.60,07.20,16.40,19.30};

for(int i=0; i<10;i++){

gradeVector[i] = gradeCreate(studentNumbers[i],names[i],results[i]);

}

gradePrint(newGrade);

gradeArrayPrint(gradeVector,10);

Output:

Number: 190221093 | Name: Alexandre Veríssimo | Grade: 20.00 | Status: Approved

All class notes:

Number: 145678478 | Name: Hugo Vieira | Grade: 10.40 | Status: Approved

Number: 193498649 | Name: Maria Carvalho | Grade: 16.35 | Status: Approved

Number: 190530864 | Name: Joaquim Dinis | Grade: 9.50 | Status: Approved

Number: 156978458 | Name: Henrique Ferreira | Grade: 17.40 | Status: Approved

Number: 146978478 | Name: Margarida Mourato | Grade: 6.45 | Status: Reproved

Number: 185678478 | Name: Diogo Carreira | Grade: 12.80 | Status: Approved

Number: 175678458 | Name: Ana Marques | Grade: 14.60 | Status: Approved

Number: 135674468 | Name: Manuel Quintino | Grade: 7.20 | Status: Reproved

Number: 145678479 | Name: Joana Firmino | Grade: 16.40 | Status: Approved

Number: 165678478 | Name: Lara Pires | Grade: 19.30 | Status: Approved

# Nível 3 – Código de teste + output

int approved = getNumberApproved(gradeVector,10);

printf("\nTotal of Approved: %d in 10\n", approved);

float value = 9.50;

bool checkIfExists = resultExists(gradeVector,10,value);

printf("Someone got %.2f values? %s\n\n", value, checkIfExists ? "Yes" : "No");

Output:

Total of Approved: 8 in 10

Someone got 9.50 values? Yes

# Nível 4 – Código de teste + output

int majorGrade = getMajorGrade(gradeVector,10);

printf("The best grade is %.2f values from %s\n", results[majorGrade], names[majorGrade]);

int minorGrade = getMinorGrade(gradeVector,10);

printf("The worst grade is %.2f values from %s\n\n", results[minorGrade], names[minorGrade]);

gradeArrayStats(gradeVector,10);

Output:

The best grade is 19.30 values from Lara Pires

The worst grade is 6.45 values from Margarida Mourato

All class notes:

Number: 145678478 | Name: Hugo Vieira | Grade: 10.40 | Status: Approved

Number: 193498649 | Name: Maria Carvalho | Grade: 16.35 | Status: Approved

Number: 190530864 | Name: Joaquim Dinis | Grade: 9.50 | Status: Approved

Number: 156978458 | Name: Henrique Ferreira | Grade: 17.40 | Status: Approved

Number: 146978478 | Name: Margarida Mourato | Grade: 6.45 | Status: Reproved

Number: 185678478 | Name: Diogo Carreira | Grade: 12.80 | Status: Approved

Number: 175678458 | Name: Ana Marques | Grade: 14.60 | Status: Approved

Number: 135674468 | Name: Manuel Quintino | Grade: 7.20 | Status: Reproved

Number: 145678479 | Name: Joana Firmino | Grade: 16.40 | Status: Approved

Number: 165678478 | Name: Lara Pires | Grade: 19.30 | Status: Approved

Total of Approved: 8 in 10

The best great is 19.30 values from Lara Pires

The worst great is 6.45 values from Margarida Mourato

# Nível 5 – Código de teste + output

printf("\nSort all grades by results:\n");

gradeArrSortByResult(gradeVector,10);

printf("\nSort all grades by student number:\n");

gradeArrSortByNumber(gradeVector,10);

Output:

Sort all grades by results:

All class notes:

Number: 146978478 | Name: Margarida Mourato | Grade: 6.45 | Status: Reproved

Number: 135674468 | Name: Manuel Quintino | Grade: 7.20 | Status: Reproved

Number: 190530864 | Name: Joaquim Dinis | Grade: 9.50 | Status: Approved

Number: 145678478 | Name: Hugo Vieira | Grade: 10.40 | Status: Approved

Number: 185678478 | Name: Diogo Carreira | Grade: 12.80 | Status: Approved

Number: 175678458 | Name: Ana Marques | Grade: 14.60 | Status: Approved

Number: 193498649 | Name: Maria Carvalho | Grade: 16.35 | Status: Approved

Number: 145678479 | Name: Joana Firmino | Grade: 16.40 | Status: Approved

Number: 156978458 | Name: Henrique Ferreira | Grade: 17.40 | Status: Approved

Number: 165678478 | Name: Lara Pires | Grade: 19.30 | Status: Approved

Sort all grades by student number:

All class notes:

Number: 135674468 | Name: Manuel Quintino | Grade: 7.20 | Status: Reproved

Number: 145678478 | Name: Hugo Vieira | Grade: 10.40 | Status: Approved

Number: 145678479 | Name: Joana Firmino | Grade: 16.40 | Status: Approved

Number: 146978478 | Name: Margarida Mourato | Grade: 6.45 | Status: Reproved

Number: 156978458 | Name: Henrique Ferreira | Grade: 17.40 | Status: Approved

Number: 165678478 | Name: Lara Pires | Grade: 19.30 | Status: Approved

Number: 175678458 | Name: Ana Marques | Grade: 14.60 | Status: Approved

Number: 185678478 | Name: Diogo Carreira | Grade: 12.80 | Status: Approved

Number: 190530864 | Name: Joaquim Dinis | Grade: 9.50 | Status: Approved

Number: 193498649 | Name: Maria Carvalho | Grade: 16.35 | Status: Approved