Ejemplo: *StudentTestScore* es clase cuyos atributos un arreglo unidimensional dinámico de las notas obtenidas de un estudiante y la cantidad de notas. El programa muestra la invocación de la funcion *Copy Constructor,* en un agributo dinámico.

```
#include<iostream>
#include <string>
using namespace::std;
#include "StudentTestScores.h"
int main(){
      StudentTestScores   std1("Juan Casado",3), std2("Luis Gomez", 4);
      double score;
      int index;
      cout << "Entre las "<<std1.getNumTestScores()<<" notas del
estudiante" << std1.getStudentName() << ":" << endl;
      for (index = 0; index < std1.getNumTestScores(); index++){
            cin >> score;
            std1.setTestScore(score, index);
      }//end for
      std1.display();
      cout << "Entre las "<< std2.getNumTestScores() << " notas del
estudiante" << std2.getStudentName() << ":" << endl;
      for (index = 0; index < std2.getNumTestScores(); index++){
            cin >> score;
            std2.setTestScore(score, index);
      }//end for
      std2.display();
      //Copy Constructor
      StudentTestScores std3(std1);
      std3.display();
      system("pause");
      return 0;
}//end main

/*Entre las 3 notas del estudiante Juan Casado:
34
89
67
Las notas del estudiante Juan Casado son :
34,89,67,
Entre las 4 notas del estudiante Luis Gomez:
```

```
12
45
90
65
Las notas del estudiante Luis Gomez son :
12,45,90,65,
Las notas del estudiante Juan Casado son :
34,89,67,
Press any key to continue . . .*/

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#ifndef STUDENTTESTSCORES_H
#define STUDENTTESTSCORES_H
#include <string>
using namespace std;

const double DEFAULT_SCORE = 0.0;

class StudentTestScores
{
private:
      string studentName; // The student's name
      double *testScores; // Points to array of test scores
      int numTestScores; // Number of test scores
public:
      void createTestScoresArray(int size);
      // Constructor
      StudentTestScores(string name, int numScores);
      // Copy constructor
      StudentTestScores(const StudentTestScores &obj);
      ~StudentTestScores();
      // Destructor
      // The setTestScore function sets a specific
      // test score's value.
      // Set the student's name.
      void setStudentName(string name);
      // Get the student's name.
      string getStudentName() const;
      // Get the number of test scores.
      int getNumTestScores() const;
      // Get a specific test score.
      void setTestScore(double score, int index);
      double getTestScore(int index) const;
      void display() const;
```

```
};
#endif

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#include<iostream>
using namespace::std;
#include "StudentTestScores.h"

void StudentTestScores::createTestScoresArray(int size){
      numTestScores = size;
      testScores = new double[size];
      for (int i = 0; i < size; i++)
            testScores[i] = DEFAULT_SCORE;
}

StudentTestScores::StudentTestScores(string name, int numScores){
            studentName = name;
            createTestScoresArray(numScores);
}

      // Copy constructor
StudentTestScores::StudentTestScores(const StudentTestScores &obj){
            studentName = obj.studentName;
            numTestScores = obj.numTestScores;
            testScores = new double[numTestScores];
            for (int i = 0; i < numTestScores; i++)
                  testScores[i] = obj.testScores[i];
}

      // Destructor
StudentTestScores::~StudentTestScores(){
            delete[] testScores;
}

      // The setTestScore function sets a specific
      // test score's value.
void StudentTestScores::setTestScore(double score, int index){
            testScores[index] = score;
}
      // Set the student's name.
void StudentTestScores::setStudentName(string name){
            studentName = name;
}

      // Get the student's name.
```

```
string StudentTestScores::getStudentName() const{
            return studentName;
}
      // Get the number of test scores.
int StudentTestScores::getNumTestScores() const{
            return numTestScores;
}
      // Get a specific test score.
double StudentTestScores::getTestScore(int index) const{
            return testScores[index];
}
void StudentTestScores::display() const{
      cout << "Las notas del estudiante "<< getStudentName()<< " son :"
<< endl;
      for (int index = 0; index < getNumTestScores(); index++){
            cout << getTestScore(index) << ",";
      }//end for
      cout << endl;
}
```