Page Report

**Unique Student ID:** When I get unique student id, I create one more field which name is count and this count have to be static value because in every starting constructor it has to be increased and in other constructor it should be given different value to field of student id so in each of starting constructor we will found different value of student id and we can find different value of student id when I describe student id which is equal one more than count value in constructor. For example,I described count which is first id is 100 and in first starting constructor we should find 101 value of student id. Also, in second it, we will find 102.

Also, You can find test picture of this step in testingUniqueID which is in testPicture.(in first and second output, this is not working correckly but in final output, this is working correckly)

**Search Method:** Firstly, this method takes two parametres which are student array and number integer which represents student id and return index of array or -1 and porpuse of this is to find index of finding student in student array. Secondly, When I find index, I use for loop because I look all values of studentID. Also, I use number integer in this step in if condution and I control equal values between taking array values of studentID and number integer and if these is equal, return index number else contunie loop. Also, when I find index number of array, I use i variable in for loop. When return index number, index number is equal to this variable but if any student id is not equal to given student id, this method return -1 because any index can not be -1.

Also, You can find test pictures of this method. One of the test picture is return value of finding student id which is searchMethodExistValue in the testPicture. Another is return -1 because of not finding value of student id and this is in the searchMethodnotExistValue in the testPicture.

**ChangeGrade Method:** Firstly, this method takes three parametres which are student array, examGrade and intiger number whic represent studentID and porpuse of this method is to change grade by given value of studentID and new grade is given examGrade. Secondly, When I change grade, I write one more variable which is count and it works to look at wheter given student id in array and if value of count is 0,it means not to find given student id in the array. Also, I use loop to find index values of the studentID in the array and if condition helps me to find index value by finding equal to given student id and student id in the array and if it finds equality, it increase value of count and change grade of exam by using finding index value.

Also, You can find test pictures of this method. One of the pictures is exist value and it is in testChangeGrade in testPicture and another is not exist value and it is in testChangeGradewithNoExist in testPicture.

**Show Method:** Firstly, this method takes one parametre which is student array and porpuse of this is to print all information in the array with prinf(). Seconly, I use for loop because I achieve all elements in array and when I use printf, I use %s for string value, %d for integer value and %.,2f for double values with two decimal.

Also, You can find test picture in testShow in testPicture

**GeneretedStudent Method:** Firstly, this method takes one parametre which is integer which repsesent how many student will create, it return student array and porpuse of this is to create new student by given integer. Secondly,in begin, I write student array which lenght is given integer and one more variable which is gender because of achieve in if condition.Then I use for loop to value of all items in array and length of array is limit of for loop. Then, I use four random method for GPA which is between 0 to 4,midterm and final exam grade which are between 0 to 100 and gender which is between 0 to 1. Cause of gender random between 0 to 1 is to decade female or male. Equal to 1 is meaning that converting male. In other conditon it converst female. Then, I describe exam grade and I give values of exams to it. Then, I describe student and I give values of getting random and some default to it and these steps contunie until finishing for loop.

Also, You can find test picture in testGeneretedStudents in testPicture.

**MeanGPA Method:** Firstly, this method takes one parametre which is student array and porpuse of this method is to find average of gpa of students in given array. Secondly, I describe one more valiable which is count. This count is to find total gpa of students in array. Then in for loop, I reach all element of array and get gpa values and with this value we sum of count and then equal count to these. Then I divide count with length of student array and I will print this result.

Also, You can find test picture in meanGPATest in picture test

**FindMinMax Method:** Firstly, this method takes one parametre which is student array and porpuse of method is to find min and max value of midterm and final exam. Secondly, I describe four integer variables which are min midterm and final exam grade and max midterm and final exam grade and these are values of midterm or final exam grade in zero index of array because if these value are random number, this method can not work correckly because we can describe the lowest number between midterm grade in array so we found first value of our describing. Also, I use for loop and if condition helps me to find lowest and highest value of midterm and final exam grade by controling all items of midterm and final grade. This control looks like that describing value is higher than first value of midterm in array and if it is false, it uptades describing value to other value and this step continue until finishing looop. This way variables repets for all integer. Then, print max and min value of midterm and final.

Also, You can find test picture in testFindMinMax1 and testFindMinMax2 in testPicture