Algorithm for 10 student with highest and lowest marks respectively

1. Import comparator interface including all other utlitlies
2. Implement logic for comparator that utilizes objects in such a way that each objects compares its total value with other
    - 2.a check if following first argument's gettotal is greater than other second arguments's gettotal return one incase of true else return negative one
3. Similarly implement another logic named descending for using comparator but this time for returning value in descending order
    - 3.a check if following argument's gettotal is less than other second arguments's gettotal return one incase of true else return negative one
4. Declare a variable collection list called "list" wich contains collections of objects of user with marks and total value
5. Invoke collections library with sort method and pass "list","ascending" for ascending sorting
6. Loop the list till 10th iteration to printout the 10 sorted student with lowest marks
7. Loop the list till 10th iteration to printout the 10 sorted student with highest marks
8. End

Psuedocode for 10 students with highest and lowest marks respectively

1. Import java utility using import java.util.*;
2. Set logic using comparator called ascending where compare accepts(m1.m2) as argument
    - 2a if (m1.gettotal()>m2.gettotal()) then return 1 else -1
3. Similary set logic using comparator called descending where compare accepts(m1,m2) as argument
    - 3a if (m1.gettotal()<m2.gettotal()) then return 1 else -1
4. Declare collection variable called "list"
5. Call Collections.sort(list,ascending)
6. For (int j=0;j<10;i++)
    - 6a print the each item in array to list out top 10 student with lowest marks
7. Call Collection.sort(list,descending)
8. For (int j=0;j<10;i++)
    - 8a print the each item in array to list out top 10 student with highest marks
9. end

Alogrithm for menu selection

1. Display user with menu "Select the menu", "Press 1 for function1 ","Press 2 for function2","Press 3 for function3","Press 4 for function4","Press 0 to exit the menu";
2. Assign variable "choice_id";
3. Do step 3a,3b until choidition is true
    - 3a Scan user for input

- 3b switch to different cases based on input if user press 1 go to function1
- Similarly 2 fo function2, 3 for function3 and 4 for function4,0 to set condition to false and close loop

4. End

Pseudocode for menu selection

1. Print to display the text of menu System.out.println("Select the menu"+
   "\n 1. Enter 1 to display student information and assigment marks"+
   "\n 2. Enter 2 to display total marks of all students assignment"+
   "\n 3. Enter 3 to display the list of students with the total marks less than a certain threshold"+
   "\n 4. Enter 4 to display the 10 highest and the 10 lowest Student marks"+
   "\n 5. Enter 0 to exit the menu\n");
2. Assign int choice_id;
3. Do the following step until condition is true
   - 3a Scan for userinput and store in choice_id
   - Switch (expressiong as choice_id):
   - Case 1:
   - Call function1();
   - Break;
   - Case 2:
   - Call function2();
   - Break;
   - Case 3:
   - Call function3();
   - Break;
   - Case 4:
   - Call function4();
   - Break;
4. While( when user press 0 break the loop)
5. end