Solution algorithm:

-3: Validation method is incorrect as the scores are now in an array and a DO loop should be used to check for all the elements in the array

-3: Error while calculating the highest score. The highest score should be set to five\_judges(1) and not just 0( That is the first element of the array as zero)

-3:Error in sort\_three\_scores method. The scores are not sorted, so we cannot say that elements at indexes 1, 5 are lowest and highest and  so the elements at indexes 2,3,4  cannot be added directly

(Hint: The total of the elements of the array can be found out and then the lowest and highest score can just be subtracted from the total score)

-1: Statement(s) to determine Olympic readiness exist, but has incorrect conditions.

The correct condition is:

[if !supportLists]•&νβσπ;&νβσπ;&νβσπ;&νβσπ;&νβσπ;&νβσπ;&νβσπ;&νβσπ; [endif]>=27 to < 28.5 for silver medal

// print\_readiness\_three\_scores should have only one DO loop to list out all the five scores of the array//

Desk check table:

-2 : Three scores should not be displayed, five scores should be displayed

( Statement numbers should be listed as per the order of execution. Once a method gets called, the next statement number checked should be of that particular method’s implementation)

Kyoungjin Yoon

IT 106 003

Assignment 7 Pseudocode

Defining Diagram

|  |  |  |
| --- | --- | --- |
| Input | Processing | Output |
| Five\_judges\_input | Prompt user for five\_judges  Read five\_judges  Validate five\_judges for numbers only  Validate five\_judge from 1 to 10  Sort five numbers to three\_scores  Calculate highest and lowest  Add three\_scores altogether to three\_scores\_added  Determine readiness  Display five\_judges, three\_scores\_added, readiness | Five\_judges  Three\_scores\_added  readiness  Error\_message\_fivejudge\_range  Error\_message\_fivejudge\_letter |

Solution Diagram

1. get\_five\_judge\_scores
2. validate\_five\_scores
3. drop\_the\_highest
4. drop\_the\_lowest
5. sort\_three\_scores
6. determine\_readiness
7. print\_readiness\_three\_scores

get\_five\_judge\_scores

1. set five\_judges (index) to 5
2. prompt user for five\_judges\_input
3. read five\_judges\_input
4. sort\_five\_judges (index) in ascending order

END

Validate\_five\_scores

1. REPEAT

IF five\_judges\_input NOT a number than

Display error\_message\_fivejudge\_letter

Re-prompt for five\_judges\_input

Read five\_judges\_input

ELSE IF five\_judges\_input > 10 OR five\_judge\_input < 0 THEN

Display error\_message\_fivejudge\_range

Re-prompt for five\_judges\_input

Read five\_judges\_input

ENDIF

UNTIL five\_judges\_input <= 10 OR five\_judges\_input >= 0

END

Drop\_the\_highest

1. Set highest to 0
2. DO 1 to 5

IF highest < five\_judges (index) THEN

highest = five\_judges (index)

ENDIF

ENDDO

END

drop\_the\_lowest

1. Set lowest to five\_judges (1)
2. Do 1 to 5

IF five\_judges (index) < lowest THEN

lowest = five\_judges (index)

ENDIF

ENDDO

END

sort\_three\_scores

1. set three\_scores (index) to 3
2. DO 1 to maximum value of three\_scores (index)

Three\_scores (1) = five\_judges (2)

Three\_scores (2) = five\_judges (3)

Three\_scores (3) = five\_judges (4)

END

END

determine\_readiness

1. DO 1 to maximum value of three\_scores (index)
2. Set readiness to blank

Set three\_scores\_added to three\_scores (1) + three\_scores (2) + three\_scores (3)

IF three\_scores\_added <= 30.0 AND three\_scores\_added >= 28.5 THEN

readiness = ‘Gold Medal’

Else IF three\_scores\_added <= 28.5 AND three\_scores\_added >= 27.0 THEN

readiness = ‘Silver Medal’

ELSE IF three\_scores\_added < 27.0 AND three\_scores\_added >= 24.0 THEN

readiness = ‘Bronze Medal’

ELSE

readiness = ‘Not ready for the Olympics’

ENDIF

END

print\_readiness\_three\_scores

1. DO 1 to maximum value of five\_judges (index)

DO 1 to maximum value of three\_scores (index)

Print five\_judges (index), three\_scores (index), readiness

ENDDO

ENDDO

END

Input Test Data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | First Data Set | Second Data Set | Third Data Set | Fourth Data Set |
| Five\_  judges\_  input | 1.0, 3.0, 7.0, ai, 10.0, 10.0 | 15.0, 11.0, 10.0, 7.0, 10.0, -3.0, 4.0, 9.0 | 10.0, 10.0, 10.0, 10.0, 10.0 | 10.0, 10.0, 9.0, 9.0, 9.0 |

Expected Result

|  |  |  |
| --- | --- | --- |
|  | First Data Set | Second Data Set |
| five\_judges | 1.0, 3.0, 7.0, 10.0, 10.0 | 10.0, 7.0, 10.0, 4.0, 9.0 |
| three\_scores\_added | 20.0 | 26.0 |
| readiness | Not ready for the Olympics | Bronze Medal |
| error\_message\_fivejudge\_range |  | display |
| error\_message\_fivejudge\_letter | display |  |

|  |  |  |
| --- | --- | --- |
|  | Third Data Set | Fourth Data Set |
| five\_judges | 10.0, 10.0, 10.0, 10.0, 10.0 | 10.0, 10.0, 9.0, 9.0, 9.0 |
| three\_scores\_added | 30.0 | 28.0 |
| readiness | Gold Medal | Silver Medal |
| error\_message\_fivejudge\_range |  |  |
| error\_message\_fivejudge\_letter |  |  |

Desk Checking Table

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Five\_judges | Five\_judges  \_input | Three\_  scores | Three\_  Scores\_  added | readiness | Error\_  Message  \_fivejudge  \_range | | Error\_  Message\_  Fivejudge  \_letter | DO  condition | | REPEAT  UNTIL  CONDITION |
| First Data Set |  | | | | | | | | | | |
| 1 |  | 1.0, 3.0, 7.0, ai, 10.0, 10.0 |  |  |  |  | |  |  | |  |
| 2 | 1.0, 3.0, 7.0, 10.0, 10.0 |  |  |  |  |  | |  |  | |  |
| 3 |  |  |  |  |  |  | |  |  | |  |
| 4 |  |  |  |  |  |  | |  |  | |  |
| 5 |  |  | 3, 7, 10 | 20.0 |  |  | |  |  | |  |
| 6 |  |  |  |  | Not ready for the Olympics |  | |  |  | |  |
| 7 |  |  | Display | display | display |  | |  |  | |  |
| 8 |  |  |  |  |  |  | |  |  | |  |
| 9 |  | 1.0, 3.0, 7.0, ai, 10.0, 10.0 |  |  |  |  | |  |  | |  |
| 10 |  | 1.0, 3.0, 7.0, ai, 10.0, 10.0 |  |  |  |  | |  |  | |  |
| 11 |  | ai, 1.0,3.0, 7.0, 10.0, 10.0 |  |  |  |  | |  |  | |  |
| 12 | 1.0, 3.0, 7.0, 10.0, 10.0 |  |  |  |  | display | |  |  | | false |
| 13 | highest |  |  |  |  |  | |  |  | |  |
| 14 | 10.0 |  |  |  |  |  | |  | false | |  |
| 15 | Lowest (1) |  |  |  |  |  | |  |  | |  |
| 16 | five\_judges (1.0) |  |  |  |  |  | |  | false | |  |
| 17 |  |  |  |  |  |  | |  |  | |  |
| 18 |  |  | 3, 7, 10 |  |  |  | |  | false | |  |
| 19 |  |  |  |  |  |  | |  | false | |  |
| 20 |  |  |  |  | Not ready for the Olympics |  | |  |  | |  |
| 21 |  |  | Display | display | display |  | |  |  | |  |
|  | | | | | | | | | | | |
| Second  Data  Set |  | | | | | | | | | | |
| 1 |  | 15.0, 11.0, 10.0, 7.0, 10.0, -3.0, 4.0, 9.0 |  |  |  |  | |  |  | |  |
| 2 | 10.0, 7.0, 10.0, 4.0, 9.0 |  |  |  |  |  | |  |  | |  |
| 3 |  |  |  |  |  |  | |  |  | |  |
| 4 |  |  |  |  |  |  | |  |  | |  |
| 5 |  |  | 7.0, 9.0, 10.0 | 26.0 |  |  | |  |  | |  |
| 6 |  |  |  |  | Bronze Medal |  | |  |  | |  |
| 7 |  |  | Display | display | display |  | |  |  | |  |
| 8 |  |  |  |  |  |  | |  |  | |  |
| 9 |  | 15, 11.0, 10.0, 7, 10.0, -3.0, 4.0, 9.0 |  |  |  |  | |  |  | |  |
| 10 |  | 15, 11.0, 10.0, 7, 10.0, -3.0, 4.0, 9.0 |  |  |  |  | |  |  | |  |
| 11 |  | -3.0, 4.0, 7, 9.0, 10.0, 10.0, 11.0, 15 |  |  |  |  | |  |  | |  |
| 12 | 10.0, 7.0, 10.0, 4.0, 9.0 |  |  |  |  | display | |  |  | | false |
| 13 | highest |  |  |  |  |  | |  |  | |  |
| 14 | 10.0 |  |  |  |  |  | |  | false | |  |
| 15 | Lowest (1) |  |  |  |  |  | |  |  | |  |
| 16 | five\_judges (4.0) |  |  |  |  |  | |  | false | |  |
| 17 |  |  |  |  |  |  | |  | false | |  |
| 18 |  |  | 4.0, 7.0, 10.0 |  |  |  | |  | false | |  |
| 19 |  |  |  |  |  |  | |  |  | |  |
| 20 |  |  |  |  | Bronze Medal |  | |  | false | |  |
| 21 |  |  | Display | display | display |  |  | | |  |  |
|  | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Five\_judges | Five\_judges  \_input | Three\_  scores | Three\_  Scores\_  added | readiness | Error\_  Message  \_fivejudge  \_range | | Error\_  Message\_  Fivejudge  \_letter | DO  condition | | REPEAT  UNTIL  CONDITION |
| Third Data Set |  | | | | | | | | | | |
| 1 |  | 10.0, 10.0, 10.0, 10.0, 10.0 |  |  |  |  | |  |  | |  |
| 2 | 10.0, 10.0, 10.0, 10.0, 10.0 |  |  |  |  |  | |  |  | |  |
| 3 |  |  |  |  |  |  | |  |  | |  |
| 4 |  |  |  |  |  |  | |  |  | |  |
| 5 |  |  | 10, 10, 10 | 30.0 |  |  | |  |  | |  |
| 6 |  |  |  |  | Gold Medal |  | |  |  | |  |
| 7 |  |  | Display | display | display |  | |  |  | |  |
| 8 |  |  |  |  |  |  | |  |  | |  |
| 9 |  | 10.0, 10.0, 10.0, 10.0, 10.0 |  |  |  |  | |  |  | |  |
| 10 |  | 10.0, 10.0, 10.0, 10.0, 10.0 |  |  |  |  | |  |  | |  |
| 11 |  | 10.0, 10.0, 10.0, 10.0, 10.0, 10.0 |  |  |  |  | |  |  | |  |
| 12 | 10.0, 10.0, 10.0, 10.0, 10.0 |  |  |  |  |  | |  |  | | false |
| 13 | highest |  |  |  |  |  | |  |  | |  |
| 14 | 10.0 |  |  |  |  |  | |  | false | |  |
| 15 | Lowest (1) |  |  |  |  |  | |  |  | |  |
| 16 | five\_judges (10.0) |  |  |  |  |  | |  | false | |  |
| 17 |  |  |  |  |  |  | |  |  | |  |
| 18 |  |  | 10.0, 10.0, 10.0 |  |  |  | |  | false | |  |
| 19 |  |  |  |  |  |  | |  | false | |  |
| 20 |  |  |  |  | Gold Medal |  | |  |  | |  |
| 21 |  |  | Display | display | display |  | |  |  | |  |
|  | | | | | | | | | | | |
| Fourth  Data  Set |  | | | | | | | | | | |
| 1 |  | 10.0, 10.0, 9.0, 9.0, 9.0 |  |  |  |  | |  |  | |  |
| 2 | 10.0, 10.0, 9.0, 9.0, 9.0 |  |  |  |  |  | |  |  | |  |
| 3 |  |  |  |  |  |  | |  |  | |  |
| 4 |  |  |  |  |  |  | |  |  | |  |
| 5 |  |  | 9.0, 9.0, 10.0 | 28.0 |  |  | |  |  | |  |
| 6 |  |  |  |  | Silver Medal |  | |  |  | |  |
| 7 |  |  | Display | display | display |  | |  |  | |  |
| 8 |  |  |  |  |  |  | |  |  | |  |
| 9 |  | 10.0, 10.0, 9.0, 9.0, 9.0 |  |  |  |  | |  |  | |  |
| 10 |  | 10.0, 10.0, 9.0, 9.0, 9.0 |  |  |  |  | |  |  | |  |
| 11 |  | 9.0, 9.0, 9.0, 10.0, 10.0 |  |  |  |  | |  |  | |  |
| 12 | 9.0, 9.0, 9.0, 10.0, 10.0 |  |  |  |  |  | |  |  | | false |
| 13 | highest |  |  |  |  |  | |  |  | |  |
| 14 | 10.0 |  |  |  |  |  | |  | false | |  |
| 15 | Lowest (1) |  |  |  |  |  | |  |  | |  |
| 16 | five\_judges (9.0) |  |  |  |  |  | |  | false | |  |
| 17 |  |  |  |  |  |  | |  | false | |  |
| 18 |  |  | 9.0, 9.0, 10.0 |  |  |  | |  | false | |  |
| 19 |  |  |  |  |  |  | |  |  | |  |
| 20 |  |  |  |  | Silver Medal |  | |  | false | |  |
| 21 |  |  | Display | display | display |  |  | | |  |  |
|  | | | | | | | | | | | |