**Computer Science 1710**

**Assignment 2**

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**201437787**

**Part 1: Algorithm**

**Set i to 1**

**Input number of students in class (n)**

**Set max=0**

**Set min=100**

**Set sum=0**

**While (i<=n)**

**Input student number ()**

**Input mark**

**Set sum=sum+mark**

**If (mark>max)**

**Set max=mark**

**If (mark<min)**

**Set min=mark**

**i=i+1**

**average=sum/n**

**Print(“The highest mark is the class is: “+ max)**

**Print(“The lowest mark in the class is: “+ min)**

**Print(“The average mark of the class is: “+ average)**

**Part 2: Trace Tables**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Line No** | **thisOne** | **that** | **is** | **Loop Condition (T/F)** | **If Condition (T/F)** | **Output** |
| 1 | 100 |  |  |  |  |  |
| 2 |  | 4 |  |  |  |  |
| 3 |  |  | 100 | T |  |  |
| 4 |  |  |  |  | T |  |
| 5 |  |  |  |  |  | Code: 1100100 |
| 3 |  |  | 75 | T |  |  |
| 4 |  |  |  |  | F |  |
| 6 |  |  |  |  |  | Code: 010075 |
| 3 |  |  | 50 | T |  |  |
| 4 |  |  |  |  | T |  |
| 5 |  |  |  |  |  | Code: 110050 |
| 3 |  |  | 25 | F |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Line No** | **a** | **b** | **c** | **Loop Condition (T/f)** | **If Conditions (T/F)** | **Output** |
| 1 | 4 |  |  |  |  |  |
| 2 |  |  |  | T |  |  |
| 3 |  | 2 |  |  |  |  |
| 4 |  |  | 6 |  |  |  |
| 5 |  |  |  |  | F |  |
| 7 |  |  |  |  | F |  |
| 9 |  |  |  |  |  | 426 are not in any order. |
| 10 | 8 |  |  |  |  |  |
| 2 |  |  |  | T |  |  |
| 3 |  | 7 |  |  |  |  |
| 4 |  |  | 6 |  |  |  |
| 5 |  |  |  |  | T |  |
| 6 |  |  |  |  |  | 876 are in descending order. |
| 10 | 3 |  |  |  |  |  |
| 2 |  |  |  | T |  |  |
| 3 |  | 4 |  |  |  |  |
| 4 |  |  | 5 |  |  |  |
| 5 |  |  |  |  | F |  |
| 7 |  |  |  |  | T |  |
| 8 |  |  |  |  |  | 345 are in ascending order. |
| 10 | 0 |  |  |  |  |  |
| 2 |  |  |  | F |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Line No** | **THIS\_KEY** | **inStr** | **str** | **key** | **len** | **pos** | **Loop Conditions (T/F)** | **Output** |
| 1 | 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  | T |  |
| 3 |  | “ship” |  |  |  |  |  |  |
| 4 |  |  | “ “ |  |  |  |  |  |
| 5 |  |  |  | “web” |  |  |  |  |
| 6 |  |  |  |  | 4 |  |  |  |
| 7 |  |  |  |  |  | 0 |  |  |
| 8 |  |  | “ seb” |  |  |  |  |  |
| 9 |  |  |  |  |  | 1 |  |  |
| 10 |  |  |  |  |  |  | T |  |
| 8 |  |  | “ sebheb” |  |  |  |  |  |
| 9 |  |  |  |  |  | 2 |  |  |
| 10 |  |  |  |  |  |  | T |  |
| 8 |  |  | “sebhebieb” |  |  |  |  |  |
| 9 |  |  |  |  |  | 3 |  |  |
| 10 |  |  |  |  |  |  | T |  |
| 8 |  |  | “sebhebiebpeb” |  |  |  |  |  |
| 9 |  |  |  |  |  | 4 |  |  |
| 10 |  |  |  |  |  |  | F |  |
| 11 |  |  |  |  |  |  |  | Given String is ship. Coded String is sebhebiebpeb. |
| 2 |  |  |  |  |  |  | T |  |
| 3 |  | “go” |  |  |  |  |  |  |
| 4 |  |  | “ “ |  |  |  |  |  |
| 5 |  |  |  | “web” |  |  |  |  |
| 6 |  |  |  |  | 2 |  |  |  |
| 7 |  |  |  |  |  | 0 |  |  |
| 8 |  |  | “ geb” |  |  |  |  |  |
| 9 |  |  |  |  |  | 1 |  |  |
| 10 |  |  |  |  |  |  | T |  |
| 8 |  |  | “ geboeb” |  |  |  |  |  |
| 9 |  |  |  |  |  | 2 |  |  |
| 10 |  |  |  |  |  |  | F |  |
| 11 |  |  |  |  |  |  |  | Given String is go. Coded String is geboeb. |
| 2 |  |  |  |  |  |  | F |  |