ICT159

Week 8 | Weekly Assignment | Exercise 9

# Structure Chart

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# Test Cases

| **Test #** | **Text Description** | **Inputs** | **Expected Outputs** | **Algorithm Outputs** | **Program Success/Failure** |
| --- | --- | --- | --- | --- | --- |
| 1 | Positive integer for N amount | 5 | Program continues  “Enter a string with a maximum of 5 letters:” | “Enter a string with a maximum of 5 letters:” | Success |
| 2 | Negative integer for N amount | -3 | Invalid input. Please enter an integer between 1 and 100. | Invalid input. Please enter an integer between 1 and 100. | Success |
| 3 | char for N amount | f | Invalid input. Please enter an integer between 1 and 100. | Invalid input. Please enter an integer between 1 and 100. | Success |
| 4 | string for N amount | hello | Invalid input. Please enter an integer between 1 and 100. | Invalid input. Please enter an integer between 1 and 100. | Success |
| 5 | Float number for N amount | 45.21 | Invalid input. Please enter an integer between 1 and 100. | Invalid input. Please enter an integer between 1 and 100. | Success |
| 6 | Lower bound integer for N amount | 1 | Program continues  “Enter a string with a maximum of 1 letters:” | “Enter a string with a maximum of 1 letters:” | Success |
| 7 | Upper bound integer for N amount | 100 | Program continues  “Enter a string with a maximum of 100 letters:” | “Enter a string with a maximum of 100 letters:” | Success |
| 8 | Just over upper bound for N amount | 101 | Invalid input. Please enter an integer between 1 and 100. | Invalid input. Please enter an integer between 1 and 100. | Success |
| 9 | Just under the lower bound. Zero input for N amount | 0 | Invalid input. Please enter an integer between 1 and 100. | Invalid input. Please enter an integer between 1 and 100. | Success |
| 10 | Null input for N amount | “” | Invalid input. Please enter an integer between 1 and 100. | No Output | Failure |
| 11 | String input for 5 characters for word Hello | Hello | Vowels found from string: 'eo'  The vowel 'a' does not appear in the string.  The vowel 'e' appeared 1 time(s), first at index 0.  The vowel 'i' does not appear in the string.  The vowel 'o' appeared 1 time(s), first at index 1.  The vowel 'u' does not appear in the string. | Vowels found from string: 'eo'  The vowel 'a' does not appear in the string.  The vowel 'e' appeared 1 time(s), first at index 0.  The vowel 'i' does not appear in the string.  The vowel 'o' appeared 1 time(s), first at index 1.  The vowel 'u' does not appear in the string. | Success |
| 12 | string input for 5 characters, no vowels | qwrty | No vowels found in the string. | No vowels found in the string. | Success |
| 13 | String input for 5 characters, all lowercase vowels | aeiou | Vowels found from string: 'aeiou'  The vowel 'a' appeared 1 time(s), first at index 0.  The vowel 'e' appeared 1 time(s), first at index 1.  The vowel 'i' appeared 1 time(s), first at index 2.  The vowel 'o' appeared 1 time(s), first at index 3.  The vowel 'u' appeared 1 time(s), first at index 4. | Vowels found from string: 'aeiou'  The vowel 'a' appeared 1 time(s), first at index 0.  The vowel 'e' appeared 1 time(s), first at index 1.  The vowel 'i' appeared 1 time(s), first at index 2.  The vowel 'o' appeared 1 time(s), first at index 3.  The vowel 'u' appeared 1 time(s), first at index 4. | Success |
| 14 | String input for upto 5 characters, all uppercase vowels | AEIOU | Vowels found from string: 'AEIOU'  The vowel 'a' appeared 1 time(s), first at index 0.  The vowel 'e' appeared 1 time(s), first at index 1.  The vowel 'i' appeared 1 time(s), first at index 2.  The vowel 'o' appeared 1 time(s), first at index 3.  The vowel 'u' appeared 1 time(s), first at index 4. | Vowels found from string: 'AEIOU'  The vowel 'a' appeared 1 time(s), first at index 0.  The vowel 'e' appeared 1 time(s), first at index 1.  The vowel 'i' appeared 1 time(s), first at index 2.  The vowel 'o' appeared 1 time(s), first at index 3.  The vowel 'u' appeared 1 time(s), first at index 4. | Success |
| 15 | String input for upto 5 characters, inputting only 4 characters | rawr | Vowels found from string: 'a'  The vowel 'a' appeared 1 time(s), first at index 0.  The vowel 'e' does not appear in the string.  The vowel 'i' does not appear in the string.  The vowel 'o' does not appear in the string.  The vowel 'u' does not appear in the string. | Vowels found from string: 'a'  The vowel 'a' appeared 1 time(s), first at index 0.  The vowel 'e' does not appear in the string.  The vowel 'i' does not appear in the string.  The vowel 'o' does not appear in the string.  The vowel 'u' does not appear in the string. | Success |
| 16 | String input for upto 5 characters, inputting null | “” | Input cannot be empty. Please try again. | Input cannot be empty. Please try again. | Success |
| 17 | String input for upto 5 characters, mix of upper and lower case vowels | aEiOa | Vowels found from string: 'aEiOa'  The vowel 'a' appeared 2 time(s), first at index 0.  The vowel 'e' appeared 1 time(s), first at index 1.  The vowel 'i' appeared 1 time(s), first at index 2.  The vowel 'o' appeared 1 time(s), first at index 3.  The vowel 'u' does not appear in the string. | Vowels found from string: 'aEiOa'  The vowel 'a' appeared 2 time(s), first at index 0.  The vowel 'e' appeared 1 time(s), first at index 1.  The vowel 'i' appeared 1 time(s), first at index 2.  The vowel 'o' appeared 1 time(s), first at index 3.  The vowel 'u' does not appear in the string. | Success |
| 18 | String input for upto 5 characters, inputting 6 characters | aeiouw | String must be 5 or under character(s) long. | String must be 5 or under character(s) long. | Success |
| 19 | String input for upto 10 characters, mix of letters and numbers | 1a2e3AEbC9 | Vowels found from string: 'aeAE'  The vowel 'a' appeared 2 time(s), first at index 0.  The vowel 'e' appeared 2 time(s), first at index 1.  The vowel 'i' does not appear in the string.  The vowel 'o' does not appear in the string.  The vowel 'u' does not appear in the string. | Vowels found from string: 'aeAE'  The vowel 'a' appeared 2 time(s), first at index 0.  The vowel 'e' appeared 2 time(s), first at index 1.  The vowel 'i' does not appear in the string.  The vowel 'o' does not appear in the string.  The vowel 'u' does not appear in the string. | Success |
| 20 | String input up to 20 characters, mix of special characters, numbers, vowels, float and upper/lower cases | 1.2/a3AeE\_uU\* | Vowels found from string: 'aAeEuU'  The vowel 'a' appeared 2 time(s), first at index 0.  The vowel 'e' appeared 2 time(s), first at index 2.  The vowel 'i' does not appear in the string.  The vowel 'o' does not appear in the string.  The vowel 'u' appeared 2 time(s), first at index 4. | Vowels found from string: 'aAeEuU'  The vowel 'a' appeared 2 time(s), first at index 0.  The vowel 'e' appeared 2 time(s), first at index 2.  The vowel 'i' does not appear in the string.  The vowel 'o' does not appear in the string.  The vowel 'u' appeared 2 time(s), first at index 4. | Success |
| 21 | Special character input | \*/?|\ | No vowels found in the string. | No vowels found in the string. | Success |
| 22 | Mix of different numbers | -134.15.1100 | No vowels found in the string. | No vowels found in the string. | Success |
| 23 | Vowel index consistency check | aaeeiioouuaaeeiioouu | Vowels found from string: 'aaeeiioouuaaeeiioouu'  The vowel 'a' appeared 4 time(s), first at index 0.  The vowel 'e' appeared 4 time(s), first at index 2.  The vowel 'i' appeared 4 time(s), first at index 4.  The vowel 'o' appeared 4 time(s), first at index 6.  The vowel 'u' appeared 4 time(s), first at index 8. | Vowels found from string: 'aaeeiioouuaaeeiioouu'  The vowel 'a' appeared 4 time(s), first at index 0.  The vowel 'e' appeared 4 time(s), first at index 2.  The vowel 'i' appeared 4 time(s), first at index 4.  The vowel 'o' appeared 4 time(s), first at index 6.  The vowel 'u' appeared 4 time(s), first at index 8. | Success |