INF1511 Unit 4 Visual Programming I

Strings and String Manipulation Functions

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Define tomorrow.

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NEWS

- TUTORS – None yet – discussion Q&A
- TEXTBOOK – WE ARE AWARE! Please use the additional resources from the safari / o’riley sources.

Overview

- Set Up of the programming environment.
- The theory of strings and string manipulation in programming.
- The practical application (and demonstration) of strings and string manipulation in programming.
- The assessment of learning in this unit.
- The additional resources available for this unit.

Environment Set-Up ***

- Please read the read-me-first document.
- On the internet, find ANACONDA installation.
- Install ANACONDA,

Using strings in flow control in programming

- Linear ….
- Decisions - select a flow control for execution.
- Repetition - use flow control to execute code multiple times.

Strings and string manipulation in programming

- Strings are a data type

Programming elements

- Literals - _____
- Variables - _____
- Keywords (30 in Python … and else elif exec …)
- Comments #
- A keyword is IF and ELIF
- A keyword is FOR
- A keyword is WHILE
- Functions are declared!

STRINGS

- Strings as multiple characters quotes ‘Bye’
- Lists in [] brackets [‘Monday’, ‘Tuesday’] … and can add to the list!
- Tuples in () (‘Monday’, ‘Tuesday’)
- Cannot be modified
- Sets
- *A character is a string of length 1.*

String Methods and Functions using string and returning a value ….

- str()
- max()
- min()
- len()
- sorted()
- upper(), lower(), title(),

- ncount = len(‘my name is John’)

String methods used to find substrings in a string (start and end index range)

- count(s, [start], [end])
- find(s, [start], [end])

Methods to break a string and replace substrings

- partition(separator)
- split(separator, [n])
- replace(s1, s2, n)

Arrays e.g.

- One dimensional arrays … 1 row and n columns
- p=[0 for i in range (5)]
- Two dimensional arrays … n rows and m columns
- p=[[0 for i in range (3)] for j in range (3)]

LISTS / Tuples / Dictionary

- A collection of elements.
- First element index 0, last element index -1
- Length of list len()

- List – only string elements
- Tuples - can contain elements of any type
- Dictionary - combination of string : value

Sets and Set Operations

- Union
- Intersection
- Difference
- Set methods and functions: len(), max(), min()

Practical application

- Demonstrate the syntax and use of strings and string manipulation.
- Using ANACONDA programming environment.

Assessment for Unit 4

- **Theory MCQ quiz** will become available today. One attempt. Available until 9 October 2023.
- **Programming activities** on Jupyter Notebook page. Available. Practise! Use this to complete Assignment 4.
- **Practical MCQ quiz** (Assignment 4) is available. One attempt. Available until 9 October 2023.

Additional Resources and Information

Thank you

Define tomorrow.

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