

# Results

Shang Xiao — 1st Attempt



10

Out of 10 points

124:34:21

Time for this attempt

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## Attempt History

Results	Points	Score	(Highest score is kept)
<a href="#">Attempt 1</a>	10 of 10	100%	(Highest score)

## Your Answers:

1 2 / 2 points

Describe in your own words how strings are stored with an example of how to access a particular part of the string.

String is a sequence of characters surrounded by ' ', or " ". When we create a string, we assign the string to a variable.

Originally, characters were stored in our computers using the American Standard Code for Information Interchange (ASCII), in this system, each character on our keyboard was assigned as a numeric value. For example, capitalized A has a decimal value of 41 which is equivalent to the hexadecimal of 65; non-capitalized a has a decimal value of 94 which is equivalent to the hexadecimal of 97. Now the ASCII system is more commonly referred as Unicode because more and more language around the world are being added to the system. The Unicode system is integrated with common computer systems such as Windows 10, this allows users around the world have access to the same standard everywhere, hence the name Unicode.

We extract individual characters out of a string, in another word, access a particular part of a string, by using the square brackets, [ ].

For example,

```
a = "apple"
```

a[0] = a, where:

a[ ] is an expression that evaluates to a sequence

0 is the index number, which is an integer value used to select a particular element in the sequence

We need to keep note that Python, like most of programming languages, start the first element in a sequence with 0, this is also why we always include a condition like:

```
while index < len(word),
```

before our functions, because the first element in a sequence in Python starts with 0, and if we want to access the last character in the string but forget to put such condition, the program will report an error saying IndexError: string index out of range.

Correct

2 1 / 1 point

What does it mean to have an immutable object?

An immutable object is an object that does not allow programmers to change its value in Python, something that "unmodified".

String, float, and int are all types of objects that are immutable.

We need to keep note that when we say value, it means the actual value, not the value that the variable refer to, for example, we can assign variable A = "abcde", we can also assign A = "bcdef", but we cannot do A[0] = "b" nor A[0] = "a" because strings are immutable.

Correct

3 2 / 2 points

Describe two built in functions for String.

capitalize() used on a old string returns a new string with the first letter capitalized and rest lowercased, for example:

```
x = "left4dead"
x.capitalize() = "Left4dead"
```

upper() used on a old string returns new string with all uppercase, for example:

```
a = 'csgo'
a.upper() = 'CSGO'
```

Correct

4 2 / 2 points

Describe a tuple. Your description should include an example.

If a sequence is immutable then it is a tuple, we use parentheses to delimit the ends of a tuple, for example:

```
number = ('1', '2', '3', '4'),
```

is a tuple, and it is immutable, because if we do

```
number[2] = '9',
```

we will get an error message saying TypeError: 'tuple' object does not support item assignment

Correct

5 2 / 2 points

Describe a list. Your description should include an example.

If a sequence is mutable then it is a list, we use square brackets to delimit the ends of a list, for example:

```
list = [10, 22, 98, 202],
```

is a list, and it is mutable, because if we do

```
list[1] = 96, and type list = again, we get
```

```
[10, 96, 98, 202]
```

Correct

6 1 / 1 point

Make a list that contains the first 10 numbers in the Fibonacci sequence.

```
Fibonacci = [0, 1, 1, 2, 3, 5, 8, 13, 21, 34]
```

Correct