CPSC 231 - Lab

TUPLES, DICTIONARIES

Tuples

Tuples are just like list, but you cannot change tuples.

Tuples are immutable and it is not possible to change their value after initialization

<Tuple name> = (<first value>, <second value>, ...)

student = ("Sepehr", "Sabour", 1995)

circle = (1.2, 4.3, 5)

"Tuples are used for grouping data"

Accessing Tuple Items

Like lists we use indexes to access the items of a tuple.

```
student = ("Sepehr", "Sabour", 1995)
```

```
student[0]
```

```
>> "Sepehr"
```

How to update a tuple

You cannot update a tuple.

You should follow these steps:

1. change tuple to a list

2. change the list

3. Turn list back to tuple

How to update a tuple

```
student = ("Sepehr", "Sabour", 1995)

list = list(student)

list.append("September")

student = tuple(list)
```

You can use tuples in loops and conditions

```
For item in (1,2,3,234):
  print(item)

  >> 1
  >> 2
  >> 3
  >> 234
```

```
5 in (1,2,3,4)

>> False
```

Dictionaries

A dictionary is a collection of data that are presented using keys

```
student = {

  "first name":"Sepehr",

  "last name":"Sabour",

  "Year of birth": 1995
  }
```

Accessing items in a dictionary

We use keys for accessing items

```
student = {
 "first name":"Sepehr",
 "last name":"Sabour",
 "Year of birth": 1995
 }


 student["first name"]
 >> "Sepehr"
```

Update dictionaries

```
student = {
    "first name":"Sepehr",
    "last name":"Sabour",
    "Year of birth": 1995
 }

 student["Grade"] = "A"
 student["Year of birth"] = 1994

student = {
    "first name":"Sepehr",
    "last name":"Sabour",
    "Year of birth": 1994,
    "Grade": "A"
 }
```

Removing an item

```
student = {
    "first name":"Sepehr",
    "last name":"Sabour",
    "Year of birth": 1995
 }

 student.pop("Year of birth")

student = {
    "first name":"Sepehr",
    "last name":"Sabour",
 }
```

Iteration

for x in dictionary -> keys

for x in dictionary.values() -> values

for x, y in dicrionary.items() -> keys and values