5_if statements

If statement enables program to react based on certain conditions

Conditional test

Every if statement contains conditional tests to evaluate the expression as true or false.

Checking for equality

```python
language-python

#use "==" for equality check
my_name='marcos'
my_name=='marco'
#False
```

```python
# this is very change sensitive, even the tinest difference in case will be
detected
```

For inequality

```python
my_name='marcos'
my_name!='marco'
#True
```

For numbers

```python
answer=4
answer<5
#True
answer<=6
#True
```

For multiple conditions

People can check multiple conditions together with certain requirement with "and", "or".
"And" requires both conditions to be true.
"Or" requires only one of the conditions to e true.

```python
#you can add parenthese to increase readability
age_1=17
age_2=24
(age_1>=18)and(age_2>=)
#False
```

For "in" or "not in"

```python
# to check if individuals are in the list or not
recipe=['tomato','beef','onion']
```

```python
'tomato' in recipe
#True
'potato' not in recipe
# True
```

If statement

Basic

```python
language-python

age=19
if age>18:
        print('you are an adult')
#you are an adult
```

If, else

```python
language-python

age=14
if age>18:
        print('you are ok to vote')
else:
        print('are you kiding me?')
#are you kiding me?
# this provides instruction for cases that are false
```

3 or more situations

```python
language-python

Maggie='female'
if Maggie=='female':
        print('you are so cute')
elif Maggie=='male':
        print('you are so handsome')
else:
        print('Hi')


#you are so cute
```

```
# you can use as many as "elif" as you wish and you can omit "else" if not
necessary
```

Multiple conditions

Above doesn't work when we need multiple test. because it runs first pass first serve.

```python
requested_toppings = ['mushrooms', 'extra cheese']
if 'mushrooms' in requested_toppings:
        print("Adding mushrooms.")
if 'extra cheese' in requested_toppings:
        print("Adding extra cheese.")
print("\nFinished making your pizza!")
#Adding mushrooms.
#Adding extra cheese.
#Finished making your pizza!
```

If + list

For special items

```python
#to give specific instruction to specific individuals
countries=['china','britain','USA','canada']
for country in countries:
        if country=='china':
                print('你好')
        else:
                print(f'hello {country}')
#你好
#hello britain
#hello USA
#hello canada
```

Checking for empty list

```python
# first we set up a if statement to test if the prize list is empty.
prize=[]
if prize:
        for prize_students in prize
                print(f'congratulation on{prize_student}')
#for those fail the conditonal test, print commiseration
else:
        print('sorry, there is wining record')
#sorry, there is no wining record
```

Multiple lists

```python
#this example demonstrates how to include multiple lists together
hamburgers=['beef','cheese','ham']
customer_picks=['beef','chicken']
for customer_pick in customer_picks:
        if customer_pick in hamburgers:
                print(f'{customer_pick} has been added')
        else:
                print('sorry, this option is unavailiable')


#beef has been added
#sorry, this option is unavailiable
```