



# VIETCODE ACADEMY INTRODUCTION TO PROGRAMMING

## Class 6: Dictionary





# TEACHER INFORMATION

TEACHER



TEACHING ASSISTANT





# Dictionary and why

As we learned in the previous lessons to save data we will use variable. So to save the characteristics of this talented teacher, how to program.



height: 3m

weight: 60kg

occupation: model

```
teacher_height="3m"  
teacher_weight="60kg"  
teacher_occupation="model"
```



## Dictionary and why

As seen in the above code, declaring three variables like that will be very difficult and difficult to control. To store a lot of data, we can use arrays like in class4.

```
teacher=["3m", "60kg", "model"]
```

However, if declared in this way, to access the value, you need to use index 0, 1, 2, ... But it will be difficult to remember which index corresponds to which characteristic.

=> To deal with accessing each value has a dictionary (dictionary) in Python





## Create dictionary

To solve the above example with a dictionary and print out the height characteristics from the dictionary, how to program?

```
teacher={  
    "height":"3m",  
    "weight":"60kg",  
    "occupation":"model",  
}  
print(teacher["height"])
```

At this time, the dictionary teacher will have the key height, weight, occupation. Then to access the height value just call teacher["height"]





## Create dictionary

As we have seen the dictionary has the following structure:

```
name_of_dictionary={  
    key1: value1,  
    key2: value2,  
    ...  
    keyn: valuen,  
}
```



**\* NOTE: THE VALUE OF KEY CANNOT BE CHANGED FOR EXAMPLE WHEN KEY1 HAS A VALUE OF 1 THEN IT WILL ALWAYS BE 1 AND CANNOT PLUS UP TO 2**



## Access value from dictionary

As seen in the above code to access the value value, we will use the key by `name_of_dictionary[key]`.

For example, how to print occupation from dictionary teacher?

```
print(teacher["occupation"])
```





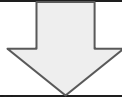
## Add and change keys and values

To create or change a new set of keys and values, we just need to initialize as we have learned about variables

```
name_of_dictionary[new_key]=new_value
```

For example, how to program it to add key handsome to the teacher dictionary?

```
teacher["isHandsome"]=True  
print(teacher)
```



```
{'height': '3m', 'weight': '60kg', 'occupation': 'model', 'isHandsome': True}
```





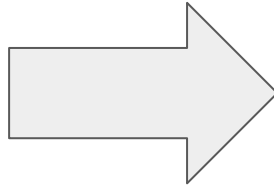
## Loop in dictionary

To access all values in the list, just use for function that runs from 0 to before size of the list because the index of elements in the list will be automatically sorted from 0 and ascending.

However, we can't do that with dictionaries because the dictionary is that we declare ourselves key key can be a string as an int, so it will be difficult to do so.

Then just do the following:

```
teacher={  
    "height":"3m",  
    "weight":"60kg",  
    "occupation":"model",  
}  
for key in teacher:  
    print(teacher[key])
```



```
3m  
60kg  
model
```



## Loop in dictionary

As seen in the above code, the loop in the dictionary has the following structure:

```
for variable in name_of_dictionary:
```

```
    code
```

Variable will be the key in the dictionary (name\_of\_dictionary)





PRACTICE WITH INCLASS6