

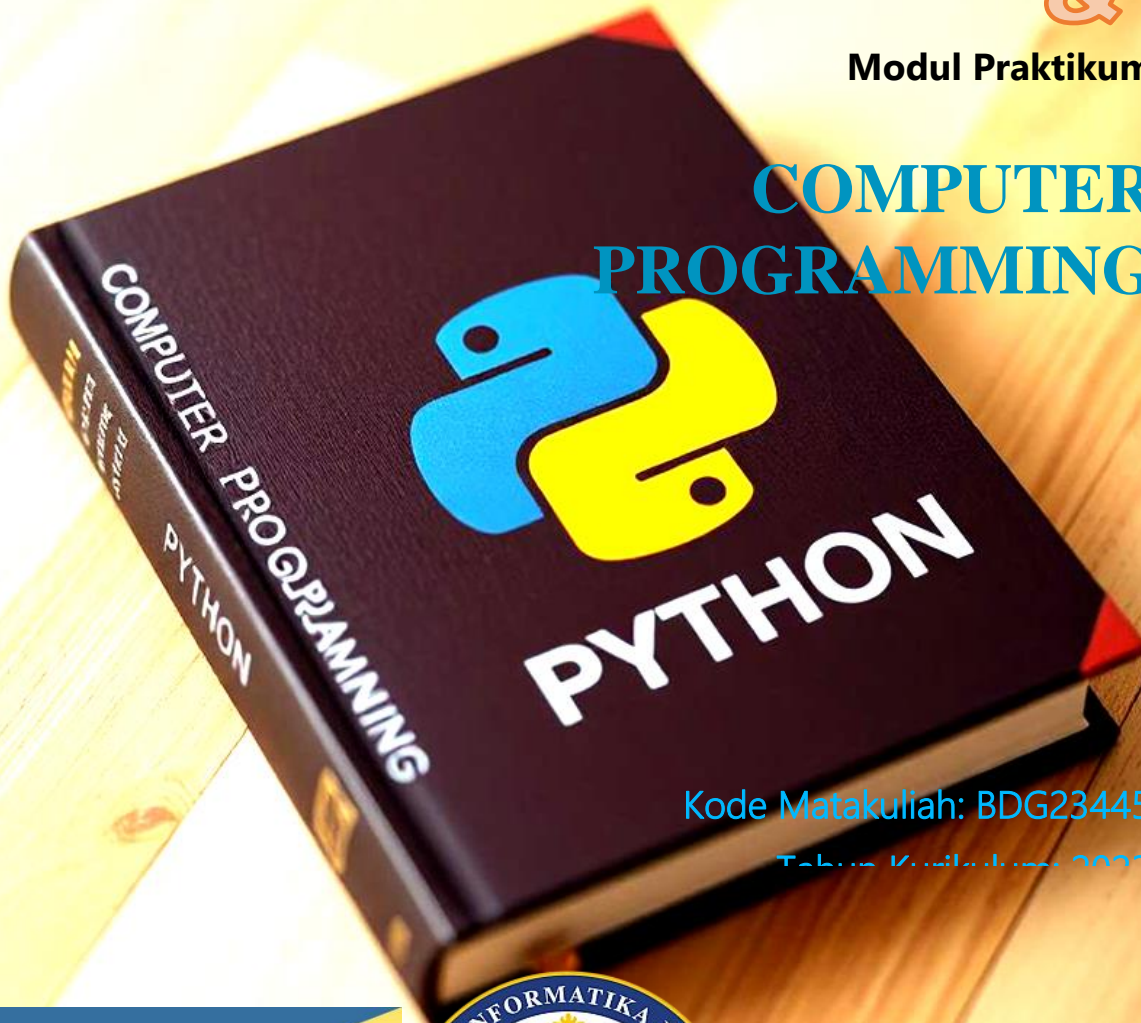
Halaman Judul

Bahan Ajar



Modul Praktikum

COMPUTER PROGRAMMING



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Penyusun:
Bayu Nugroho, S.Kom., M.Eng

Program Studi
Bisnis Digital
Institut Informatika & Bisnis Darmajaya

FAKULTAS EKONOMI & BISNIS
INSTITUT INFORMATIKA DAN BISNIS DARMAJAYA
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Modul 14

Konsep dasar Array dalam Python

What is an Array?

An array is a special variable, which can hold more than one value at a time.

If you have a list of items (a list of car names, for example), storing the cars in single variables could look like this:

```
car1 = "Ford"
car2 = "Volvo"
car3 = "BMW"
```

However, what if you want to loop through the cars and find a specific one? And what if you had not 3 cars, but 300?

The solution is an array!

An array can hold many values under a single name, and you can access the values by referring to an index number.

Access the Elements of an Array

You refer to an array element by referring to the *index number*.

Example

Get the value of the first array item:

```
x = cars[0]
```

Example

Modify the value of the first array item:

```
cars[0] = "Toyota"
```

The Length of an Array

Use the `len()` method to return the length of an array (the number of elements in an array).

Example

Return the number of elements in the cars array:

```
x = len(cars)
```

Note: The length of an array is always one more than the highest array index.

ADVERTISEMENT

Looping Array Elements

You can use the for in loop to loop through all the elements of an array.

Example

Print each item in the cars array:

```
for x in cars:
    print(x)
```

Adding Array Elements

You can use the `append()` method to add an element to an array.

Example

Add one more element to the cars array:

```
cars.append("Honda")
```

Removing Array Elements

You can use the `pop()` method to remove an element from the array.

Example

Delete the second element of the cars array:

```
cars.pop(1)
```

You can also use the `remove()` method to remove an element from the array.

Example

Delete the element that has the value "Volvo":

```
cars.remove("Volvo")
```

Note: The list's `remove()` method only removes the first occurrence of the specified value.

Array Methods

Python has a set of built-in methods that you can use on lists/arrays.

Method Description

| | |
|--|--|
| <code>append()</code> | Adds an element at the end of the list |
| <code>clear()</code> | Removes all the elements from the list |
| <code>copy()</code> | Returns a copy of the list |
| <code>count()</code> | Returns the number of elements with the specified value |
| <code>extend()</code> | Add the elements of a list (or any iterable), to the end of the current list |
| <code>index()</code> | Returns the index of the first element with the specified value |
| <code>insert()</code> | Adds an element at the specified position |
| <code>pop()</code> | Removes the element at the specified position |
| <code>remove()</code> | Removes the first item with the specified value |
| <code>reverse()</code> | Reverses the order of the list |
| <code>sort()</code> | Sorts the list |

Note: Python does not have built-in support for Arrays, but Python Lists can be used instead.