



AUES



Ғұмарбек Дәукеев атындағы
Алматы энергетика және байланыс университеті

Қосымшаларды құрудың заманауи технологиялары

Коллекциялар. Тізімдер. КORTEЖдер. Сөздіктер

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Data collection ---> Деректер коллекциясы



Python Data Types

Numbers

Python Data Types

Numbers

```
graph TD; Numbers[Numbers] --> Integral[Integral]; Numbers --> NonIntegral[Non-Integral];
```

Integral

Non-Integral

Python Data Types

Numbers

```
graph TD; Numbers[Numbers] --> Integral[Integral]; Numbers --> NonIntegral[Non-Integral]; Integral --> Integers[Integers]
```

Integral

Non-Integral

Integers

Python Data Types

Numbers

Integral

Non-Integral

Integers

Booleans

Python Data Types

Numbers

Integral

Non-Integral

Integers

Floats

Booleans

Python Data Types

Numbers

Integral

Non-Integral

Integers

Floats

Booleans

Complex

Python Data Types

Numbers

Integral

Non-Integral

Integers

Floats

Booleans

Complex

Decimals

Python Data Types

Numbers

Integral

Integers

Booleans

Non-Integral

Floats

Complex

Decimals

Fractions

Python Data Types

Collections

Python Data Types

Collections

Sequences

Sets

Mappings

Python Data Types

Collections

Sequences

Mutable

Immutable

Python Data Types

Collections

Sequences

Mutable

Immutable

Lists

Python Data Types

Collections

Sequences

Mutable

Immutable

Lists

Tuples

Python Data Types

Collections

Sequences

Mutable

Immutable

Lists

Tuples

Strings

Python Data Types

Collections

Sequences

Sets

Mappings

Python Data Types

Collections

Sets

Mutable

Python Data Types

Collections

Sets

Mutable

Immutable

Python Data Types

Collections

Sets

Mutable

Immutable

Sets

Python Data Types

Collections

Sets

Mutable

Immutable

Sets

Frozen Sets

Python Data Types

Collections

Sequences

Sets

Mappings

Python Data Types

Collections

Mappings

Python Data Types

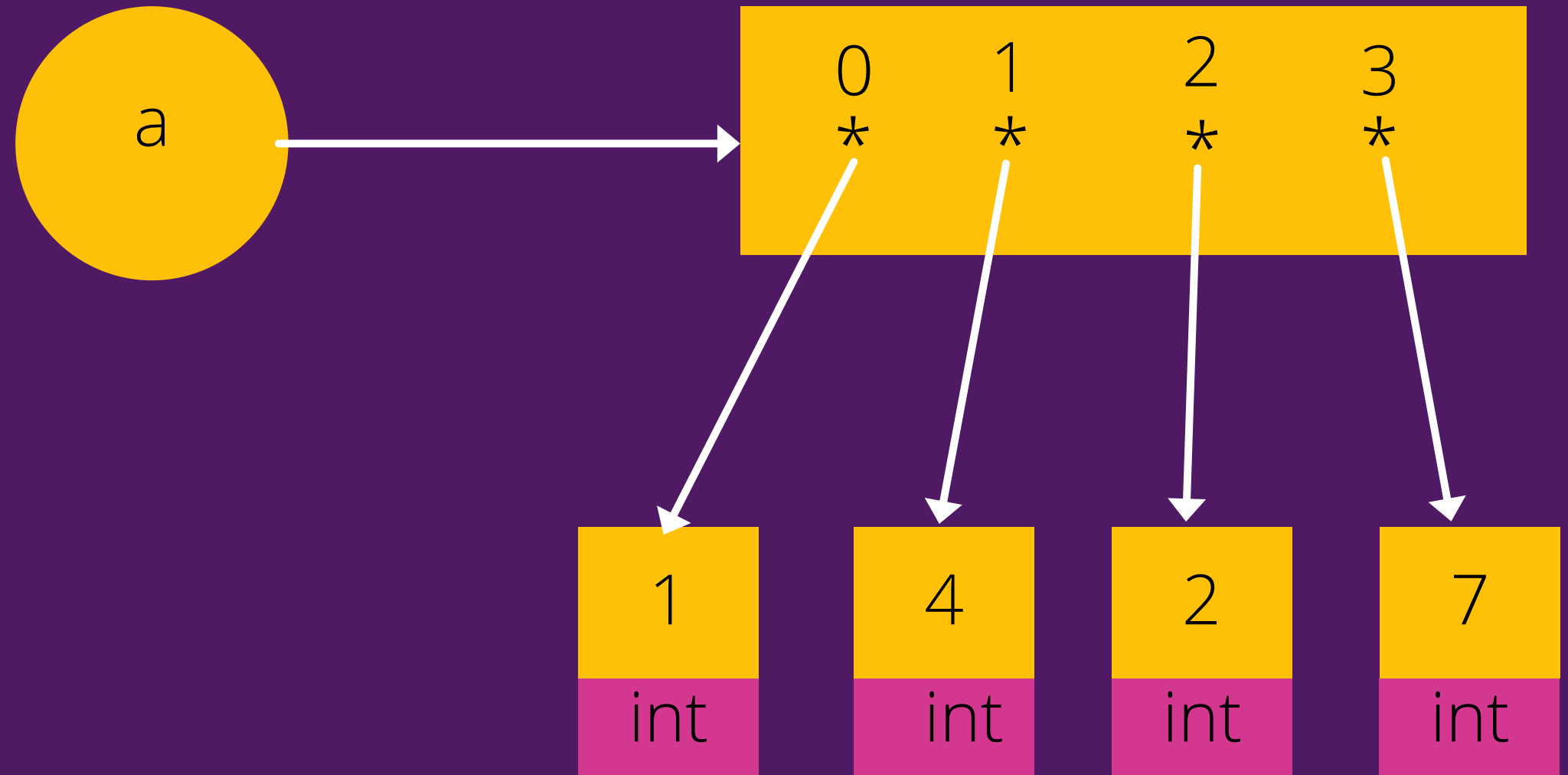
Collections

Mappings

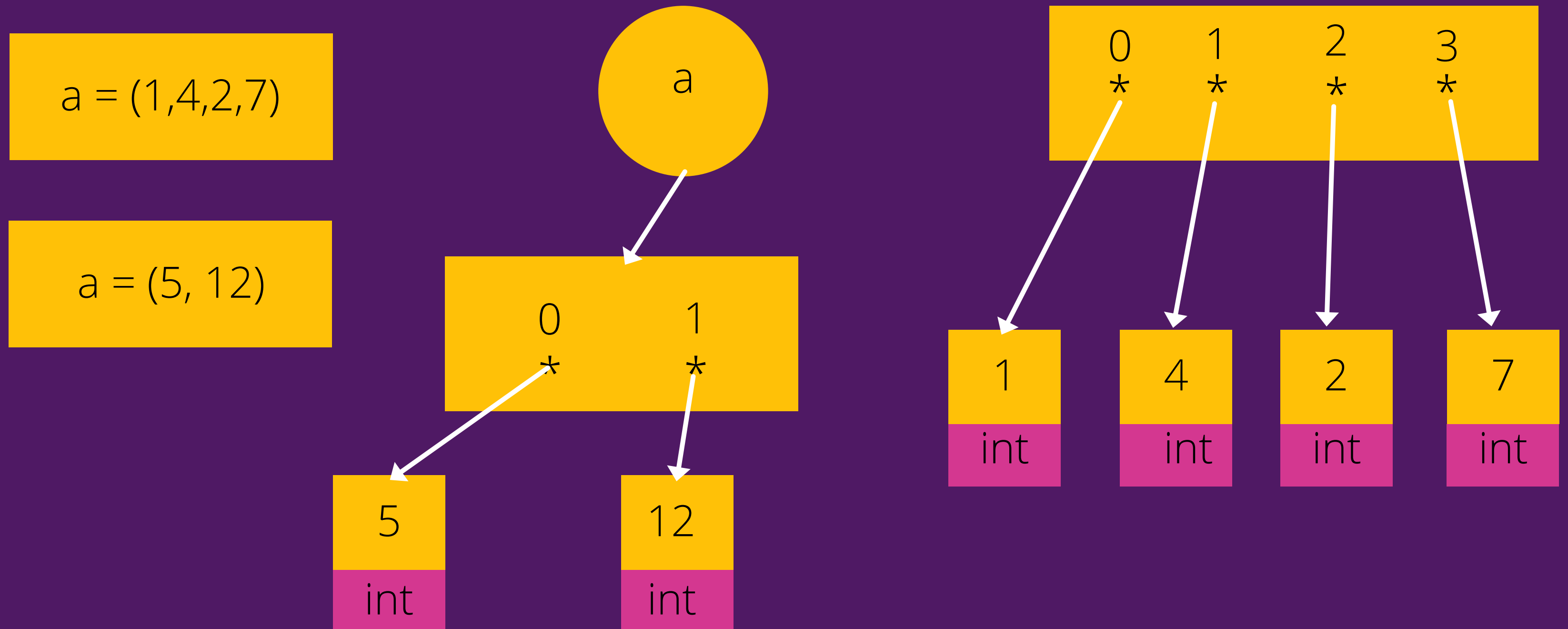
Dictionaries

Tuple --> Кортеж

`a = (1,4,2,7)`

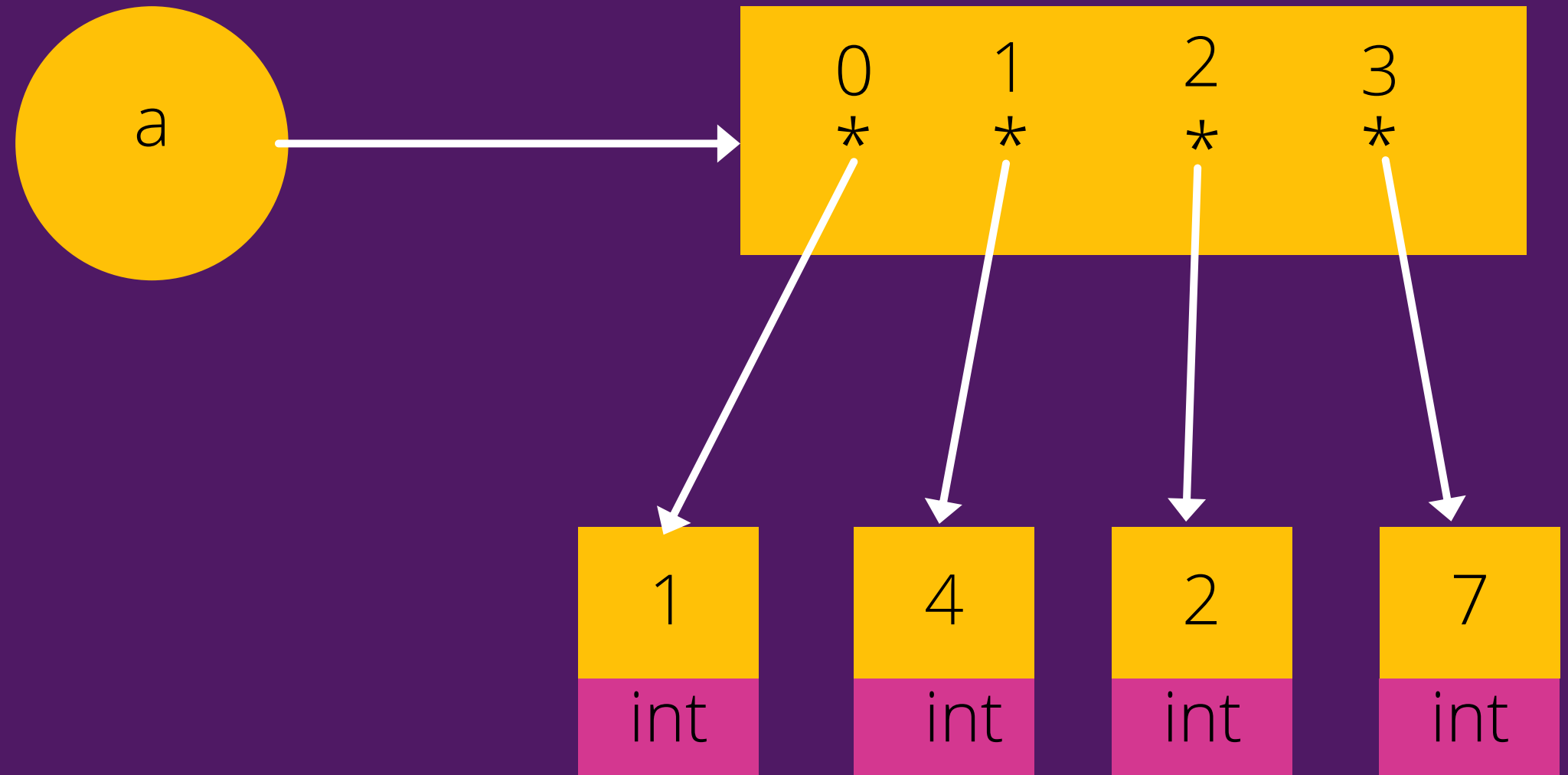


Tuple --> Кортеж



List -->
Tizim

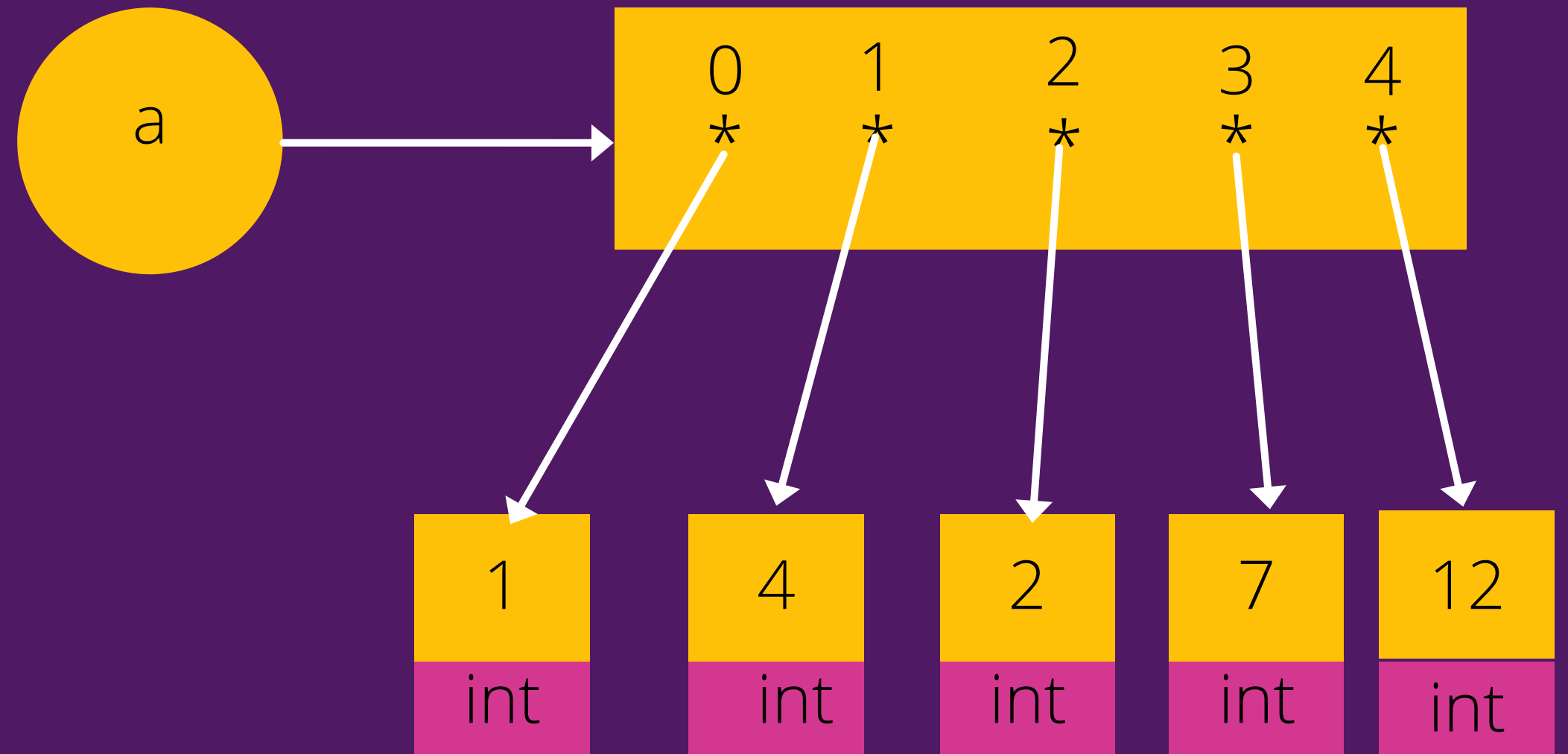
$a = [1, 4, 2, 7]$



List -->
Tizim

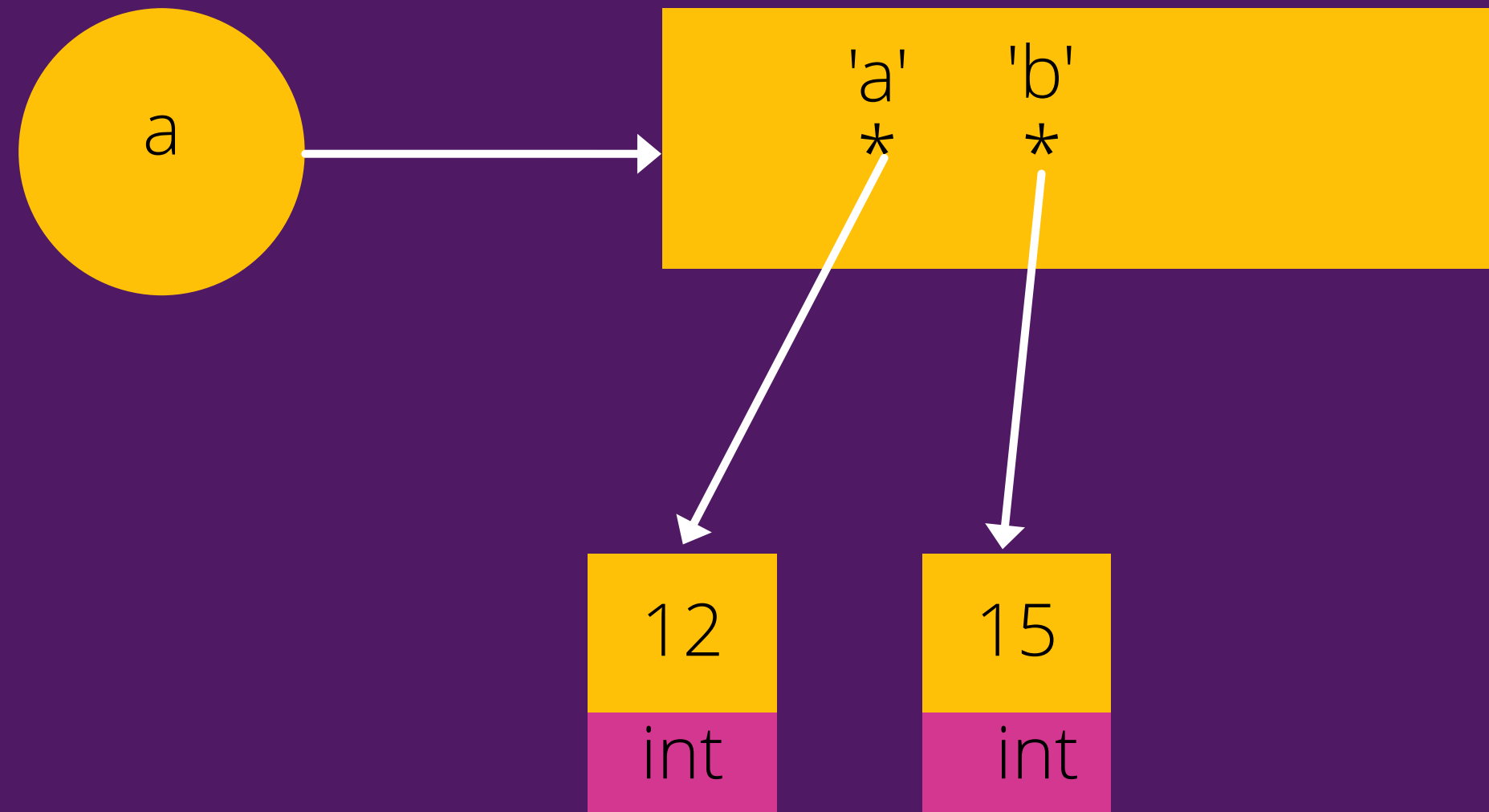
`a = [1,4,2,7]`

`a.append(12)`



Dict--> Сөздік

`a = {'a':12, 'b':15}`



Dict--> Сөздік

```
a = {'a':12, 'b':15}
```

```
a['c'] = 30
```

```
a = {'a':12, 'b':15,  
      'c':30}
```

