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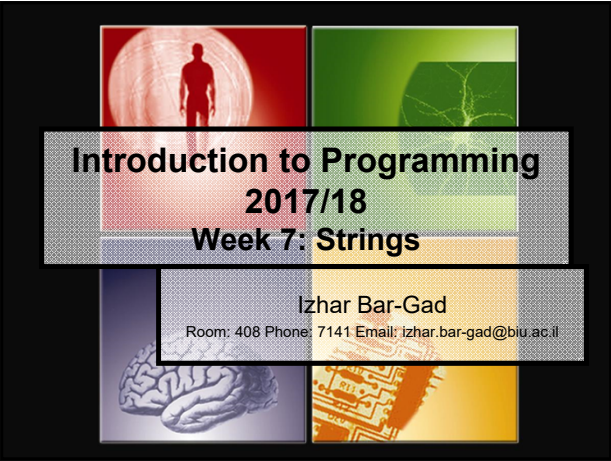
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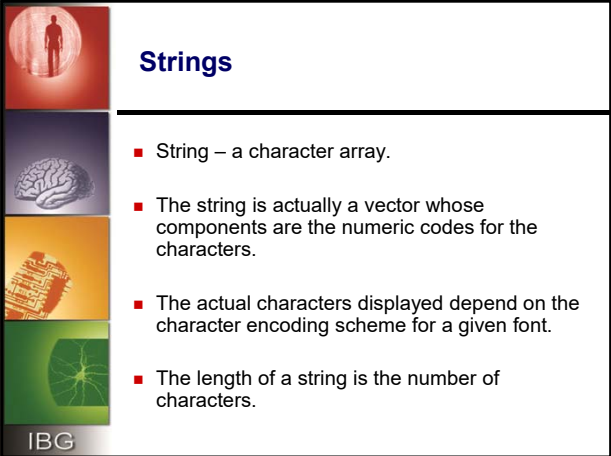
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**Introduction to Programming**  
**2017/18**  
**Week 7: Strings**

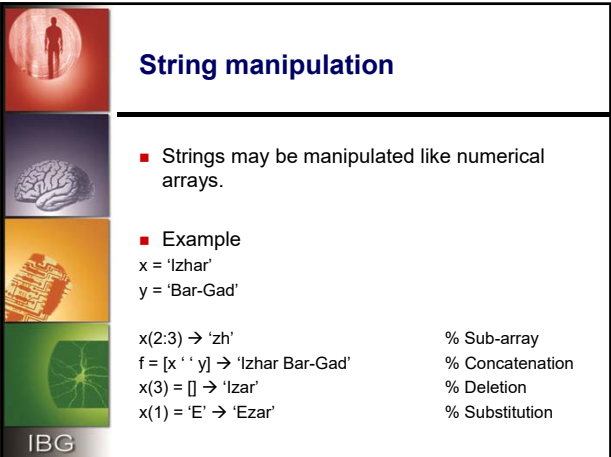
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### Strings

- String – a character array.
- The string is actually a vector whose components are the numeric codes for the characters.
- The actual characters displayed depend on the character encoding scheme for a given font.
- The length of a string is the number of characters.

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### String manipulation

- Strings may be manipulated like numerical arrays.
- Example

```
x = 'Izhar'  
y = 'Bar-Gad'  
  
x(2:3) → 'zh'           % Sub-array  
f = [x ' ' y] → 'Izhar Bar-Gad' % Concatenation  
x(3) = [] → 'Izar'      % Deletion  
x(1) = 'E' → 'Ezar'     % Substitution
```

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## Special characters




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- In addition special characters are supported.
  - \n - New line
  - \t - Horizontal tab
  - \\ - Backslash
  - " (two single quotes) - Single quotation mark
  - %% Percent character
- Example:
 

```
'What will "this"\nformat\tlook like\n'
```

→

```
What will 'this'
format      look like
```

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## String transformation

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- Some functions accept only on strings or only on numeric matrices.
- Conversion may be performed between the two formats (assuming a numerical string).
- str2num – String → Number
- num2str – Number → String
- Example:
 

```
x='232';
y=str2num(x);
x+1 → 51 52 51           Alteration of letters
y+1 → 233                Correct calculation
```

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## Multiple strings

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- Multiple strings form a matrix (other representations will be shown in the future).
- Example:
 

```
u=['Izhar '; 'Bar-Gad'];
size(u) → [2 7]

u(1:2,2:3) → ['zh'; 'ar']
```
- Padding with spaces is necessary to keep all line lengths equal.

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