

# HTML



National Telecommunication Institute - Egypt



# Linear Media vs. Hypermedia



# What is HTML?

- HTML developed by TIM BERNERS-LEE in 1990.
- Is short for HyperText Markup Language.
- Every web page on the internet is written using HTML.
- HTML provides the basic structure of the page.



# What is HTML

**HTML Code is composed of:**

- **Tags:** keywords for writing HTML.
- **Attributes:** Properties for each Tag.
- **Values:** Values for each attribute.



# What is HTML?

## Syntax:

```
<tag>contents...</tag>
```



# What is HTML?

## Syntax:

```
<Tag Attribute ="Value">
```

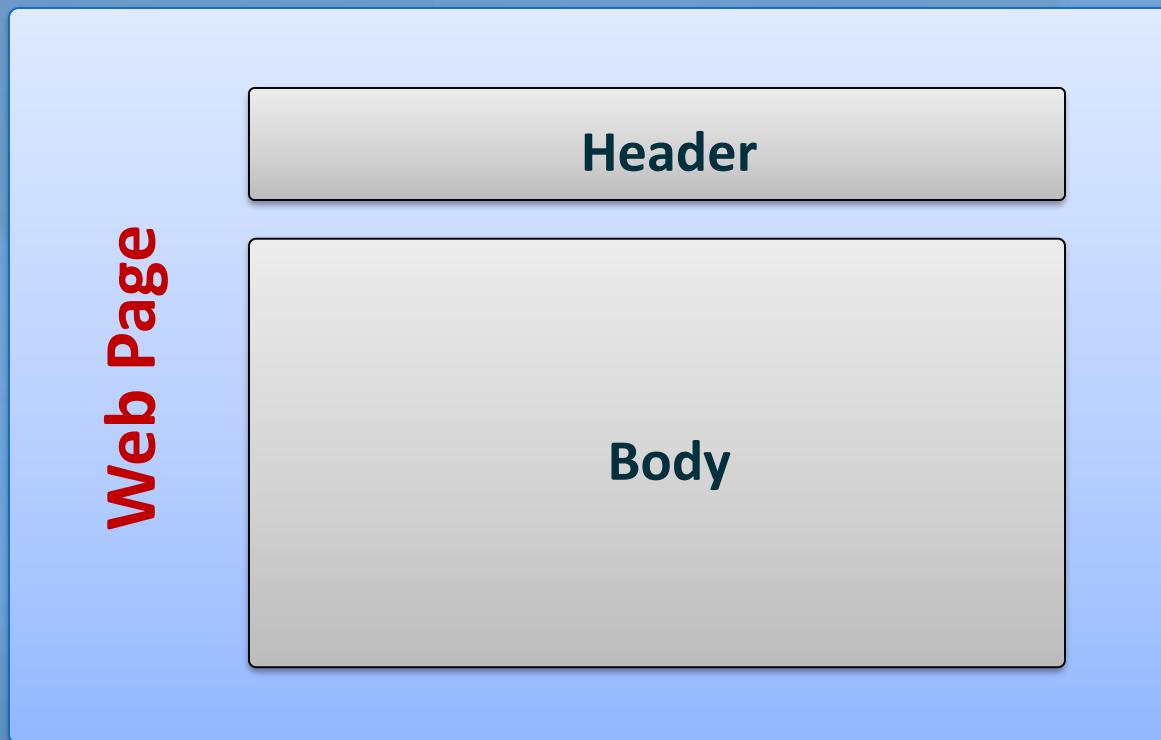
contents...

```
</Tag>
```



# HTML Document Structure

## HTML (web) Page Structure





# HTML Document Structure

## HTML (web) Page Structure

- An **HTML** tag surrounds the whole document.
- This **HTML** contains two sub-elements, **HEAD** and **BODY**.
- This Structure is required to create any **HTML** document.



# HTML Document Structure

## HTML (web) Page Structure

```
<html>  
  <head>  
    <title> Document title. </title>  
    <script> Contains either java script or vb script </script>  
  </head>  
  <body>  
    HTML Code  
  </body>  
</html>
```



# HTML Document Properties

## Setting Document Properties

Document properties are controlled by attributes of the **BODY** tag.

↓ For example

Background color → <body bgcolor="#009966">

Text color → <body text="#00FFFF">

Links color → <body link="#000000">



# Colors in HTML



# Colors in HTML

## Colors in HTML

- HTML uses "**RGB**" color codes
- "RGB" codes represented as **hexadecimal values**.
- Each 2-digit of the code represents **red, green** and **blue** for the color.



# Colors in HTML

## Colors in HTML

| RGB Color | Hexadecimal Value | RGB Color  | Hexadecimal Value |
|-----------|-------------------|------------|-------------------|
| White     | #FFFFFF           | Aquamarine | #70DB93           |
| Black     | #000000           | Chocolate  | #5C3317           |
| Red       | #FF0000           | Violet     | #9F5F9F           |
| Green     | #00FF00           | Brass      | #B5A642           |
| Blue      | #0000FF           | Copper     | #B87333           |
| Magenta   | #FF00FF           | Pink       | #FF6EC7           |
| Cyan      | #00FFFF           | Orange     | #FF7F00           |
| Yellow    | #FFFF00           |            |                   |



# The BODY Tag Attributes

## ↓ The Page Background color

**Attribute Name:** bgcolor

**Code:** <body bgcolor="#ffffff"></body>

## ↓ The Text Color

**Attribute Name:** text

**Code:** <body text="#ff0000"></body>



# The BODY Tag Attributes

## ↓ The Background Image

**Attribute Name:** background

**Code:** <body background="images/logo.gif"></body>

## ↓ The Links Color

**Attribute Name:** link

**Code:** <body link="#0000ff">



# The BODY Tag Attributes

## ↓ The Visited Links Color

**Attribute Name:** vlink

**Code:** <body vlink="#0000ff">

## ↓ The Active Links Color

**Attribute Name:** alink

**Code:** <body alink="#0000ff">



# The BODY Tag Attributes

## ↓ The Text Direction

**Attribute Name:** dir

**Code:** <body dir="ltr">

## ↓ Values

"ltr"     "rtl"

## ↓ The Element ID

**Attribute Name:** id

**Code:** <body id="b1">



# Headings, <hx> </hx>

- HTML has **6 levels** of heading formats
- From **h1** through **h6**
- **h1** has the **greatest** size.
- **h6** has the **smallest** size.



# Headings, <hx> </hx>

## Example

```
<html>
<head>
<title>example page</title>
</head>
<body>
    <h1>Heading 1</h1>
    <h2>Heading 2</h2>
    <h3>Heading 3</h3>
    <h4>Heading 4</h4>
    <h5>Heading 5</h5>
    <h6>Heading 6</h6>
</body>
</html>
```

## Output

**Heading 1**

**Heading 2**

**Heading 3**

**Heading 4**

**Heading 5**

**Heading 6**



# The Heading Tag Attributes

## ↓ The Text alignment

**Attribute Name:** align

**Code:** <h1 align ="center">

## ↓ Values

Center | right | left | justify

## ↓ The Tool Tip

**Attribute Name:** title

**Code:** <h1 title ="welcome"> text in title </h1>



# The Heading Tag Attributes

## ↓ Other Attributes

→ dir

→ id



# Paragraph, <P> </P>

Paragraph tag allows adding text to a document in such a way that it will automatically adjust the end of line to suit the window size of the browser.



# Paragraph, <P> </P>

## Example

```
<html><head>
<title>example page</title></head>
<body>
<h1>Heading 1</h1>
<p>Paragraph 1, ... </p>
<h2>Heading 2</h2>
<p>Paragraph 2, ... </p>
<h3>Heading 3</h3>
<p>Paragraph 3, ... </p>
<h4>Heading 4</h4>
<p>Paragraph 4, ... </p>
</body>
</html>
```

## Output

### Heading 1

Paragraph 1, ...

### Heading 2

Paragraph 2, ...

### Heading 3

Paragraph 3, ...

### Heading 4

Paragraph 4, ...



# The Paragraph Tag Attributes



## The Paragraph Tag Attributes

→ align → left | right | center | justify

→ dir → ltr | rtl

→ id

→ title



# Break, <br>

- Line breaks allow you to break the text on a new line.
- A <BR> is an Empty Tag.



# Break, <br>

## Example

```
<html>
<head>
<title>test</title>
</head>
<body>
  <p>
    this is a test for the BR tag <br> this line is a new line within
    the same paragraph
  </p>
</body>
</html>
```

## Output

```
this is a test for the BR tag
this line is a new line within the same paragraph
```



# Horizontal Rule, <hr>

- The <HR> element causes the browser to display a horizontal line (rule).
- <HR> is an Empty Tag.



# Horizontal Rule, <hr>

## Example

```
<html>
<head>
<title>example page</title>
</head>
<body>
<h1>Heading 1</h1>
<p>Paragraph 1, <br>line 2 <br>
<hr>Line 3 <br>... </p>
</body>
</html>
```

## Output

# Heading 1

Paragraph 1,  
Line 2

---

Line 3

...



# Horizontal Rule, <hr>

## ↓ The <hr> Tag Attributes

**size → Height in pixels. Default is 2 pixels.**

**width → Width in pixels or percentage. Default 100%.**

**Align → left | right | center**

**color → set a color for the rule.**



# Text Formatting



# Text Formatting



## The Bold Tag **<b>** or **<strong>**

**Code:** **<b>** this is the text to be bold **</b>**

**or:** **<strong>** this is the text to be bold **</strong >**



## The Italic Tag **<i>** or **<em>**

**Code:** **<i>** this is the text to be italic**</i>**

**or:** **<em>** this is the text to be italic**</em>**



## The Underline Tag **<u>**

**Code:** **<u>** this is the text to be underlined**</u>**



# Text Formatting

## ↓ The Preformatted Text <pre>

→ Description:

This tag support blank spaces and line breaks as the user types in the code.

→ Code

```
<pre> text  
here      </pre>
```



# Text Formatting

## ↓ The Block Quotations <blockquote>

➔ **Description:**

Creates indents from both sides in the document.

➔ **Code**

```
<blockquote> Text </blockquote>
```



# Text Formatting



## Subscript Position Text <sub>

**Code:** <sub> subscript position </sub>



## Superscript Position Text <sup>

**Code:** <sup> places text in superscript style position</sup>



# Text Formatting

## Division Tag <div>.....</div>

→ Description:

Creates a division in the document (page division)  
and can contain other tags.

→ Tag → <div>....</div>

→ Attributes → Align, dir, id, title.

→ Code → <div align="left">.....</div>



# Text Formatting

## ↓ Span Tag <span>.....</span>

→ **Description:**

Creates a division in the tag data (tag division).

→ **Tag** → <span>....</span>

→ **Attributes** → dir, id, title.

→ **Code** → <p>this is a <span>a span in</span> a paragraph  
paragraph</p>



# Text Formatting

Span Tag <span>.....</span>

→ Example:

```
<p title=" title1">  
this is <span title="title2"> a span in </span>  
a paragraph  
</p>
```



# HTML Comments

- HTML comments are not displayed in the browser, but they can help document your HTML source code.
- Comments are not displayed by the browser.
- A CSS comment starts with `<--` and ends with `-->`.
- `<!-- Write your comments here -->`



# Special characters and Symbols



# Special Characters and Symbols

Special Characters and Symbols **not found on the keyboard** can be inserted using special character entities.

These characters are recognized in HTML as they begin with an **ampersand “&”** and end with a **semi-colon “;”**.



# Special Characters and Symbols

## Symbols

| Special Character | Entity Name |
|-------------------|-------------|
| Copyright         | © &copy;    |
| Cent sign         | ¢ &cent;    |
| Greater-than sign | > &gt;      |
| Less-than sign    | < &lt;      |
| Registration mark | ® &reg;     |
| Trademark sign    | ™ &trade;   |



# Special Characters and Symbols

## Symbols

| Special Character  | Entity Name   |
|--------------------|---------------|
| One half           | $\frac{1}{2}$ |
| One qtr            | $\frac{1}{4}$ |
| Quotation mark     | "             |
| Ampersand          | &             |
| Non-breaking space |               |



**Lists**



# Lists

- HTML supplies several list tags.
- Most list are composed of list items
- Types of lists
  - Unordered List.
  - Ordered List.
  - Definition List.



# Lists - Unordered List. <ul>

## Unordered List

Items in this list start with a bullet.

### Example

```
<ul>
    <li>List item...</li>
    <li>List item...</li>
    <li>List item...</li>
</ul>
```

### Output

- List item...
- List item...
- List item...



# Lists - Unordered List. <ul>

## Types of list bullets

Html provides three types of list bullet:

- Disc (default).
- Circle.
- Square.

These are controlled by the "type" attribute for the <ul> tag.



# Lists - Unordered List. <ul>

## ↓ Square example

```
<ul type="square">
  <li>List item...</li>
  <li>List item...</li>
  <li>List item...</li>
</ul>
```

## ↓ Circle example

```
<ul type="circle">
  <li>List item...</li>
  <li>List item...</li>
  <li>List item...</li>
</ul>
```

## Output

- List item...
- List item...
- List item...

## Output

- List item...
- List item...
- List item...



# Lists - Ordered List. <ol>

## Ordered List

Items in this list are numbered automatically.

### Example

```
<ol>
  <li>List item...</li>
  <li>List item...</li>
  <li>List item...</li>
</ol>
```

### Output

- 1. List item...
- 2. List item...
- 3. List item...



# Lists - Ordered List. <ol>

## Types of ordered Lists

- Html provides 5 types of ordered lists
- These list are controlled by the "type" attribute for the <ol> tag.



# Lists - Ordered List. <ol>

## ↓ Ordered Lists types

| TYPE = “...” | Numbering Style |                 |
|--------------|-----------------|-----------------|
| 1            | Arabic numbers  | 1, 2, 3, ...    |
| a            | Lower alpha     | a, b, c, ...    |
| A            | Upper alpha     | A, B, C, ...    |
| i            | Lower roman     | i, ii, iii, ... |
| I            | Upper roman     | I, II, III, ... |



# Lists - Ordered List. <ol>

- Note that the default list type is the “**Arabic Numbers**” (1,2,3,4...).
- The starting number for the ordered list can be changed using the “**start**” attribute in the **<ol>** tag.



# Lists - Ordered List. <ol>

## Example

```
<ol type="i">
    <li>List item...</li>
    <li>List item...</li>
</ol>
    <p>Unrelated text ... </p>
<ol type="i" start="3">
    <li>List item...</li>
</ol>
```

## Output

- i. List item...
- ii. List item...
- Unrelated text ...
- iii. List item...



# Lists - Definition List. <dl>

## Definition List

- This type of list is used for definitions or glossary of terms.
- It is composed of a Definition list tag <dl> followed by Definition term tag <dt> and Definition Description tag <dd>.



# Lists - Definition List. <dl>

## Example

```
<dl>
  <dt>HTML</dt>
    <dd>Hyper Text Markup Language</dd>
  <dt>JS</dt>
    <dd>JavaScript</dd>
</dl>
```

## Output →

|      |                            |
|------|----------------------------|
| HTML | Hyper Text Markup Language |
| JS   | JavaScript                 |



# Images



## GIF (Graphic Interchange Format).

- GIF uses a maximum of 256 colors.
- Best for displaying logos, icons, and buttons.
- Have some extra functionality than other images types:
  - Interlacing
  - Transparency
  - Animation



# Images - Supported Image Formats

- **Interlacing:** The browser will be able to display the image as it loads (gradually).
- **Transparency:** you can set colors to be transparent.
- **Animation:** A number of GIF images saved into a single file and looped.



## JPG, JPEG (Joint Photographic Expert Group).

- JPG Image file can contains millions of colors.
- JPG allow you to specify the degree of file compression to create a balance between image quality and file size.
- JPEGs also support interlacing.



## PNG (Portable Network Graphics).

- Good for combinations of text and graphics within one image.
- Permits true color images.
- Variable transparency.
- Interlacing.



# Images - Non-Supported Image Formats.

## BMP (MS Windows BitMaP).

- Is not supported by any browsers.

## TIFF (Tagged Image File Format).

- Is not supported by any browsers.



# Inserting Images



# Images - Inserting Images

## ↓ Inserting Images

**Tag Name → <img>**

**Attributes →**

- **src:** Image file source
- **alt:** Alternative Text (if image didn't load)
- **width:** Image width in px.
- **height:** Image height in px.
- **id:** adds an id to the image.
- **title:** adds a tool tip to image.
- **border:** a border surrounds the image (in px)



# Images - Inserting Images

## Example

```

```



# Links



# Links

Simply links can be added to the page using the following code

↓ Syntax

```
<a href="URL"> text to click</a>
```



# Links

There are three major types of links:

 **Internal Links**

Links within the same document.

 **Local Links.**

Links to documents on the same web server.

 **External Links.**

Links to pages on other web servers.



# Links

## Creating Internal links

- Define a **location** with the **<A>** tag and the attribute **“name”**
- Then create a link to the location by another **<a>** tag and the attribute **“href”**

↓ Code

```
<a name="hi"> this is  
the location the link  
refers to</a>
```

↓ Code

```
<a href="#hi">nti</a>
```



# Links

## Creating local links

- Create a link to another page using the `<a>` tag and the attribute “`href`” and a **relative path** as a **value**

↓ Code

```
<a href="folder1/page1.html">nti</a>
```

or

```
<a href="page1.html">nti</a>
```



# Links

## Creating External links

- Create a link to a web page on another website using the **<a>** tag and the attribute “**href**” and the **url of the page as a value**

↓ Code

```
<a href="http://www.yahoo.com">yahoo</a>
```



# Links

## Creating links to Email address

- Similar to linking to an external website use the term “mailto:” followed by the email address as a value for the href attribute.

 Code

```
<a href="mailto:me@yahoo.com">contact me </a>
```



# Tables





# Tables

→ Main Tag → <table>.....</table>

→ Sub Tags

<tr></tr>: Table Row.

<th></th>: Table Header (bold centered).

<td></td>: Table Data (cell data)

<caption> </caption>: Table title



# Tables - Example

## Example

```
<table>

<tr><th>Col 1 Header</th><th>Col 2 Header</th></tr>

<tr><td>Row 1 - Col 1 </td><td>Row 1 - Col 2 </td></tr>

<tr><td>Row 2 - Col 1 </td><td>Row 2 - Col 2 </td></tr>

<tr><td>Row 3 - Col 1 </td><td>Row 3 - Col 2 </td></tr>

</table>
```



# Tables - Example

↓ Output

| Col 1 Header  | Col 2 Header  |
|---------------|---------------|
| Row 1 - Col 1 | Row 1 - Col 2 |
| Row 2 - Col 1 | Row 2 - Col 2 |
| Row 3 - Col 1 | Row 3 - Col 2 |



# Tables - Table Attributes

## Table Attributes

Tag Name → <table>

Attributes →

- **bgcolor:** background color for the table.
- **width:** Table width in pixels or a percentage.
- **border:** border width in pixels.
- **bordercolor:** border color around the table.



# Tables - Table Attributes

## Table Attributes

- **cellspacing:** space between cells in px.
- **cellpadding:** space between cell border and cell contents in px.
- **align:** left | right | center
- **background:** Background Image.



# Tables - Table Attributes



## Table Caption Attributes

**Tag Name → <caption>**

**Attributes →**

- **align:** top | bottom. (top is default)
- **id:** add an id for the caption.
- **dir:** changes the direction of the text.
- **title:** adds tool tip for the caption text.



# Tables - Example

## Example

```
<table border="1" cellpadding="2">  
  <caption align="bottom"> Table Label </caption>  
  <tr><th>Col1 Header</th><th>Col2 Header</th></tr>  
  <tr><td>Row 1 - Col 1</td><td>Row 1 - Col 2</td></tr>  
  <tr><td>Row 2 - Col 1</td><td>Row 2 - Col 2</td></tr>  
  <tr><td>Row 3 - Col 1</td><td>Row 3 - Col 2</td></tr>  
</table>
```



# Tables - Example

Output

| Col1 Header   | Col2 Header   |
|---------------|---------------|
| Row 1 - Col 1 | Row 1 - Col 2 |
| Row 2 - Col 1 | Row 2 - Col 2 |
| Row 3 - Col 1 | Row 3 - Col 2 |

Table Label



# Table Data <td> Attributes

## ↓ Table <td> Attributes

**Tag Name → <td>**

**Attributes →**

- **width:** Width in pixels or percentage.
- **height:** Height in pixels.
- **align:** left | right | center | justify.
- **valign:** top | middle | bottom.



# Table Data <td> Attributes



## Table <td> Attributes

- **background:** Background image, will be tiled.
- **bgcolor:** Background color.
- **colspan:** Merge columns cells. (number)
- **rowspan:** Merge rows cells. (number)



# Tables - Example

## Example

```
<table border="1" cellpadding="2">  
  <tr><th>Col1 Header</th><th>Col2 Header</th></tr>  
  
  <tr><td colspan="2">Row 1 - Col 1 </td></tr>  
  
  <tr><td rowspan="2">Row 2 - Col 1 </td><td>Row 2 - Col 2  
    </td></tr>  
  
  <tr><td>Row 3 - Col 2 </td></tr>  
  
</table>
```



# Tables - Example

Output

| Col1 Header   | Col2 Header   |
|---------------|---------------|
| Row 1 - Col 1 |               |
| Row 2 - Col 1 | Row 2 - Col 2 |
|               | Row 3 - Col 2 |



# Forms



# Forms

## Forms

**Description →** Used to insert a form on the page.

**Tag name →** <form> ...</form>



# Forms

## ↓ <form> tag attributes

**action** → URL name for the form data to be sent.

**method** → HTTP method for sending data.

**get:** is default

**post:** is more secure



# Forms - Form Sub Elements

There are 3 major types of form sub elements:

↓ The Input element.

```
<input>..</input>
```

↓ The Select element.

```
<select> </select>
```

↓ The Text Area element.

```
<textarea> </textarea>
```



# Forms

## ↓ <Input> tag attributes

**type** → Type of INPUT entry field.

**name** → Variable name passed to the data page.

**value** → Initial value that appears to the user.

**size** → Specifies the width of an <input> element, in characters. Default value is 20.

**maxlength** → Maximum number of characters accepted.

**checked** → Used with the radio Button or the check box to be checked by default or not.

# Forms - <INPUT>

## Text boxes

Description → Adds a text field to the form.

Code → <input type="text">

Attributes → name

size

maxlength

value

Output

# Forms - <INPUT>

↓ Text boxes “password”

Description → Adds a password field to the form.

Code → <input type="password">

Attributes → name

size

maxlength

value

↓ Output

# Forms - <INPUT>

## Check Box

Description → Adds a check box to the form.

Code → <input type="checkbox">

Attributes → name

value

checked

Output





# Forms - <INPUT>

## Radio button

Description → Adds a radio button to the form.

Code → <input type="radio">

Attributes → name

value

checked

Output



# Forms - <INPUT>

## File field

Description → Used to upload files to the web server.

Code → <input type="file">

Attributes → name

value

Output



A screenshot of a file input field. It consists of a text input box followed by a 'Browse...' button.

# Forms - <INPUT>

## Button

Description → Used with scripts to cause an action.

Code → <input type="button">

Attributes → name

value





# Forms - <INPUT>

## Submit Button

**Description** → The button that causes the browser to send the **NAMES** and **VALUES** of all the form tag to the server page defined by the **ACTION** attribute.

**Code** → `<input type="submit">`

**Attributes** → name

value





# Forms - <INPUT>

## Reset Button

Description → Clear all the inputs in the form.

Code → <input type="reset">

Attributes → name

value

Output

Reset



# Forms - <select>

## ↓ Combo and List Boxes

Description → adding combo box  
or list box to the form.

Code → <select></select>

Attributes → name

size: number of lines

multiple: allow more than  
on selection

Sub Element → <option></option>

## ↓ Output

  
Size="1"

## ↓ Output

|        |
|--------|
| item 1 |
| item 2 |
| item 3 |

  
Size="3"



# Forms - <select>

## ↓ Adding list items

**Description** → adding list items to the <SELECT> tag.

**Code** → <option>.....</option>

**Attributes** → value

selected: means that this is the default selected  
option



# Forms - <SELECT> Example

## Example

```
<p>  
  <select name="x500" size="1">  
    <option value="1">item 1</option>  
    <option value="2" selected="selected">item 2</option>  
  </select>  
</p>
```

## Output

A screenshot of a web browser showing a dropdown menu. The menu has a single item, "item 2", which is highlighted with a blue border and a small downward arrow indicating it is the selected option.



# Forms - <SELECT> Example

## Example

```
<p>  
  <select name="x600" size="2">  
    <option value="1">item 1</option>  
    <option value="2" selected="selected">item 2</option>  
  </select>  
</p>
```

Output

|        |  |
|--------|--|
| item 1 |  |
| item 2 |  |
|        |  |



# Forms - Text Area

## Text Area

Description Allows free text entry.

Code → <textarea> </textarea>

Attributes →

name

rows: Number of rows.

cols: Number of columns

Output

