

CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ

Semester 2 Examinations 2012/13

Module Title: eBusiness Infrastructure

Module Code: COMP7008

School: Computing and Mathematics

Programme Title: BSc in Information Technology

BSc (Hons) in Information Technology Management

Programme Code: KITSU_7_Y3

KITMN_8_Y2

External Examiner(s): Mr. Ian Manning

Internal Examiner(s): Mr. Arthur Tobin

Instructions: Answer two questions. Each question is worth 50%.

Duration: 2 hours

Sitting: Autumn 2015

Requirements for this examination:

Reference files for PHP, HTML, Javascript and CSS are at the back of this exam paper.

Note to Candidates: Please check the Programme Title and the Module Title to ensure that you have received the correct examination paper.

If in doubt please contact an Invigilator.

Q1. (50 marks)

a) [14 marks]

Describe the architecture of a typical ecommerce system.

Describe a web database transaction based upon this architecture.

b) [12 marks]

Write a cascading style sheet file that defines

Item	Details	Background
Class called <code>Cork</code>	Comic Sans MS, 12pt	Green
ID selector called <code>body</code>	Padding all sides : 10px Border all sides : solid	

Write a segment of HTML that demonstrates how these might be used.

c) [24 marks]

Write an **outline** of the Javascript function `validate()` for Listing 1. It should return `true` if required data has been supplied and `false` if required data is missing.

- The email should contain text followed by “@mycit.ie”. Email label should be formatted with id selector `mistake` if the user makes a mistake and return to default if the mistake is rectified.
- The user does not have to choose a module from the list.
- The user must select their opinion of the project. Write an error message "Please provide your opinion" next to the drop down list if the user does not select an option and remove this error message when they select an option.

Form Validation

Email

What other modules are you taking?

- Wireless LANs
- Programming Fundamentals 2

Internet and Network Services

Server Side Programming

Do you think the project is:

Figure 1: Screenshot of form

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
#mistake{
    color:red;
    font-style:italic;
    font-weight: bold;
}
</style>
</head>
<body>
<h1>Form Validation</h1>
<form method="get" action="process.php">
<label id="emailLabel">Email</label>
<input class="textbox" type="text" id="email" name="email" value="@mycit.ie" />
<br/><br/>
<label id="modulesLabel">What other modules are you taking?</label>
  <br /><input type="checkbox" value="COMP7007" name="modules[]" />Wireless LANs
  <br /><input type="checkbox" value="SOFT6006" name="modules[]" />Programming
  <br /><input type="checkbox" value="COMP7008" name="modules[]" />
    Internet and Network Services
  <br /><input type="checkbox" value="COMP6078" name="modules[]" />
    Server Side Programming
<br/><br/>
<label id="ratingLabel">Do you think the project is:</label>
<select id="ratingProject" name="projectOpinion">
  <option></option>
  <option>Easy</option>
  <option>Fair</option>
  <option>Difficult</option>
  <option>Too difficult</option>
</select>
<span id="error"></span>

```

```
<br/><br/>
<input type="submit" onclick="return validate();" value="Submit" />
</form>
</body>
</html>
```

Listing 1 HTML Source Code

Q2. (50 marks)

a) [20 marks]

Most online B2C (business to consumer) companies use digital or SSL certificates. What is a digital certificate? What must a company do obtain a digital certificate?

Why do these same companies not require that their customers offer the same assurances?

b) [10 marks]

When designing a web site you should ensure they work on most browsers. There are many ways to ensure this, one of which is to use a DOCTYPE (document type).

What is a document type?

How does it contribute to the success of a website?

c) [20 marks]

What is XML? Demonstrate by creating a small XML file, and describe how it might be used.

Describe two ways in which XML is used in eBusiness applications.

Q3. (50 marks)

a) [12 marks]

What is a cookie?

Provide 3 ways a can a cookie be used by ecommerce websites?

b) [13 marks]

What is a scripting language? Compare and contrast a server side scripting language and a client side scripting language. What are the advantages and disadvantages of each?

c) [25 marks]

Consider the following HTML page that includes a form. You may assume that the form is validated.

Write `addNewsletter.php` : this should insert the values entered by the user as a new record in a database called `newsletters` (details on next page). The server is `localhost` and the username and password are `"root"`.

Newsletter sign-up

First name:

Surname :

EMail:

Format:

Topics of interest

PHP HTML W3C News Javascript

Submit

Figure 2: Form for processing with PHP

```

<html>
  <head>
    <title>Exam Question</title>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
  </head>
  <body>
    <form onsubmit="return validate();" action="addNewsletter.php" method="POST">
      <h2>Newsletter sign-up</h2>
      <br />EMail:
      <br /><input type="text" id="email" name="email" value="" />
      <br />
      Format:
      <select name="format" id="format">
        <option></option>
        <option value="HTML">HTML</option>
        <option value="TEXT">TEXT</option>
      </select>
      <h2>Topics of interest</h2>
      <input type="checkbox" name="topics[]" value="PHP" />PHP
      <input type="checkbox" name="topics[]" value="HTML" />HTML
      <input type="checkbox" name="topics[]" value="W3CNews" />W3C News
      <input type="checkbox" name="topics[]" value="Javascript" />Javascript
      <br /><br /><br />
      <input type="submit" value="Submit">
    </form>
  </body>
</html>

```

Listing 2: Listing of HTML code for form in Figure 2

The database is called Newsletters:

Email	Varchar
Format	Varchar (4)
PHP	1 (if PHP newsletter requested) 0 (if PHP newsletter not requested)
JS	1 or 0 for Javascript newsletter
W3C	1 or 0 for W3C newsletter
HTML	1 or 0 for HTML newsletter



Document Outline <!DOCTYPE> Version of (X)HTML <html> HTML document <head> Page information <body> Page contents	Lists Ordered list Unordered list List item <dl> Definition list <dt> Definition term <dd> Term description	Objects <object> Object <param /> Parameter
Comments <!-- Comment Text -->	Forms <form> Form <fieldset> Collection of fields <legend> Form legend <label> Input label <input /> Form input <select> Drop-down box <optgroup> Group of options <option> Drop-down options <textarea> Large text input <button> Button	Empty Elements <area /> <base /> <input /> <link /> <col /> <meta /> <hr /> <param />
Page Information <base /> Base URL <meta /> Meta data <title> Title <link /> Relevant resource <style> Style resource <script> Script resource	Tables <table> Table <caption> Caption <thead> Table header <tbody> Table body <tfoot> Table footer <colgroup> Column group <col /> Column <tr> Table row <th> Header cell <td> Table cell	Core Attributes class style id title <i>Note: Core Attributes may not be used in base, head, html, meta, param, script, style or title elements.</i>
Document Structure <h[1-6]> Heading <div> Page section Inline section <p> Paragraph Line break <hr /> Horizontal rule	Images and Image Maps Image <map> Image Map <area /> Area of Image Map	Language Attributes dir lang <i>Note: Language Attributes may not be used in base, br, frame, frameset, hr, iframe, param or script elements.</i>
Links Page link Email link Anchor Link to anchor	Common Character Entities " " Quotation mark & & Ampersand < < Less than > > Greater than @ @ "At" symbol € € Euro • • Small bullet ™ ™ Trademark £ £ Pound Non-breaking space © © Copyright symbol	Keyboard Attributes accesskey tabindex
Text Markup Strong emphasis Emphasis <blockquote> Long quotation <q> Short quotation <abbr> Abbreviation <acronym> Acronym <address> Address <pre> Pre-formatted text <dfn> Definition <code> Code <cite> Citation Deleted text <ins> Inserted text <sub> Subscript <sup> Superscript <bdo> Text direction	Keyboard Events onKeyDown onKeyUp onKeyPress	Window Events onLoad onUnload
		Form Events onBlur onReset onChange onSelect onFocus onSubmit
		Mouse Events onClick onMouseout onDbclick onMouseover onMouseDown onMouseup onMouseMove

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Selectors

*	All elements
div	<div>
div *	All elements within <div>
div span	 within <div>
div, span	<div> and
div > span	 with parent <div>
div + span	 preceded by <div>
.class	Elements of class "class"
div.class	<div> of class "class"
#itemid	Element with id "itemid"
div#itemid	<div> with id "itemid"
a[attr]	<a> with attribute "attr"
a[attr='x']	<a> when "attr" is "x"
a[class~='x']	<a> when class is a list containing 'x'
a[lang='en']	<a> when lang begins "en"

Pseudo-Selectors and Pseudo-Classes

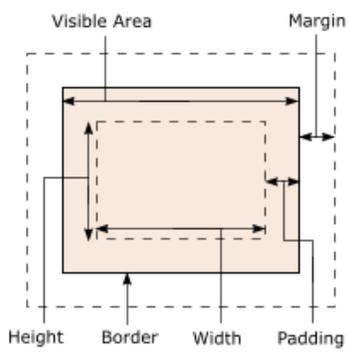
:first-child	First child element
:first-line	First line of element
:first-letter	First letter of element
:hover	Element with mouse over
:active	Active element
:focus	Element with focus
:link	Unvisited links
:visited	Visited links
:lang(var)	Element with language "var"
:before	Before element
:after	After element

Sizes and Colours

0	0 requires no unit
Relative Sizes	
em	1em equal to font size of parent (same as 100%)
ex	Height of lower case "x"
%	Percentage
Absolute Sizes	
px	Pixels
cm	Centimeters
mm	Millimeters
in	Inches
pt	1pt = 1/72in
pc	1pc = 12pt
Colours	
#789abc	RGB Hex Notation
#acf	Equates to "#aacfff"
rgb(0,25,50)	Value of each of red, green, and blue. 0 to 255, may be swapped for percentages.

Note Shorthand properties are marked **x**
Properties that inherit are marked **+**

Box Model



Positioning

display	clear
position	z-index
top	direction +
right	unicode-bidi
bottom	overflow
left	clip
float	visibility

Dimensions

width	min-height
min-width	max-height
max-width	vertical-align
height	

Color / Background

color +	background-repeat
background x	background-image
background-color	background-position
background-attachment	

Text

text-indent +	word-spacing +
text-align +	text-transform +
text-decoration	white-space +
text-shadow	line-height +
letter-spacing +	

Fonts

font + x	font-weight +
font-family +	font-stretch +
font-style +	font-size +
font-variant +	font-size-adjust +

Boxes

margin x	border-color x
margin-top	border-top-color
margin-right	border-right-color
margin-bottom	border-bottom-color
margin-left	border-left-color
padding x	border-style x
padding-top	border-top-style
padding-right	border-right-style
padding-bottom	border-bottom-style
padding-left	border-left-style
border x	border-width x
border-top x	border-top-width
border-bottom x	border-right-width
border-right x	border-bottom-width
border-left x	border-left-width

Tables

caption-side +	border-spacing +
table-layout	empty-cells +
border-collapse +	caption-header +

Paging

size	page-break-inside +
marks	page +
page-break-before	orphans +
page-break-after	widows +

Interface

cursor +	outline-style
outline x	outline-color
outline-width	

Aural

volume +	elevation
speak +	speech-rate
pause x	voice-family
pause-before	pitch
pause-after	pitch-range
cue x	stress
cue-before	richness
cue-after	speak-punctuation
play-during	speak-numeral
azimuth +	

Miscellaneous

content	list-style-type +
quotes +	list-style-image +
counter-reset	list-style-position +
counter-increment	marker-offset
list-style + x	

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Methods

Object
 toString
 toLocaleString
 valueOf
 hasOwnProperty
 isPrototypeOf
 propertyIsEnumerable

String
 charAt
 charCodeAt
 fromCharCode
 concat
 indexOf
 lastIndexOf
 localeCompare
 match
 replace
 search
 slice
 split
 substring
 substr
 toLowerCase
 toUpperCase
 toLocaleLowerCase
 toLocaleUpperCase

RegExp
 test
 match
 exec

Array
 concat
 join
 push
 pop
 reverse
 shift
 slice
 sort
 splice
 unshift

Number
 toFixed
 toExponential
 toPrecision

Date
 parse
 toDateString
 toTimeString
 getDate
 getDay
 getFullYear
 getHours
 getMilliseconds
 getMinutes
 getMonth
 getSeconds
 getTime
 getTimezoneOffset
 getYear
 setDate
 setHours
 setMilliseconds
 setMinutes
 setMonth
 setSeconds
 setYear
 toLocaleTimeString

JavaScript

XMLHttpRequest

Safari, Mozilla, Opera:
 var req = new XMLHttpRequest();
Internet Explorer:
 var req = new
 XMLHttpRequest("Microsoft.XMLHTTP");

XMLHttpRequest Object Methods

abort()
 getAllResponseHeaders()
 getResponseHeader(header)
 open(method, URL)
 send(body)
 setRequestHeader(header, value)

XMLHttpRequest Object Properties

onreadystatechange
 readyState
 responseText
 responseXML
 status
 statusText

XMLHttpRequest readyState Values

0	Uninitialized
1	Loading
2	Loaded
3	Interactive
4	Complete

JAVASCRIPT IN HTML

External JavaScript File
 <script type="text/javascript"
 src="javascript.js"></script>
Inline JavaScript
 <script type="text/javascript">
 <!--
 // JavaScript Here
 //-->
 </script>

Functions

Window
 alert
 blur
 clearTimeout
 close
 focus
 open
 print
 setTimeout

Built In
 eval
 parseInt
 parseFloat
 isNaN
 isFinite
 decodeURI
 decodeURIComponent
 encodeURI
 encodeURIComponent
 escape
 unescape

REGULAR EXPRESSIONS - FORMAT

Regular expressions in JavaScript take the form:
 var RegEx = **/pattern/modifiers;**

REGULAR EXPRESSIONS - MODIFIERS

/g	Global matching
/i	Case insensitive
/s	Single line mode
/m	Multi line mode

REGULAR EXPRESSIONS - PATTERNS

^	Start of string
\$	End of string
.	Any single character
(a b)	a or b
(...)	Group section
[abc]	Item in range (a or b or c)
[^abc]	Not in range (not a or b or c)
a?	Zero or one of a
a*	Zero or more of a
a+	One or more of a
a{3}	Exactly 3 of a
a{3,}	3 or more of a
a{3,6}	Between 3 and 6 of a
!(pattern)	"Not" prefix. Apply rule when URL does not match pattern.

EVENT HANDLERS

onAbort	onMouseDown
onBlur	onMouseMove
onChange	onMouseOut
onClick	onMouseOver
onDbClick	onMouseUp
onDragDrop	onMove
onError	onReset
onFocus	onResize
onKeyDown	onSelect
onKeyPress	onSubmit
onKeyUp	onUnload
onLoad	

FUNCTIONS AND METHODS

A method is a type of function, associated with an object. A normal function is not associated with an object.

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DOM Methods

Document

clear
 createDocument
 createDocumentFragment
 createElement
 createEvent
 createEventObject
 createRange
 createTextNode
 getElementsByTagName
 getElementById
 write

Node

addEventListener
 appendChild
 attachEvent
 cloneNode
 createTextRange
 detachEvent
 dispatchEvent
 fireEvent
 getAttributeNS
 getAttributeNode
 hasChildNodes
 hasAttribute
 hasAttributes
 insertBefore
 removeChild
 removeEventListener
 replaceChild
 scrollIntoView

Form

submit

DOM Collections

item

Range

collapse
 createContextualFragment
 moveEnd
 moveStart
 parentElement
 select
 setStartBefore

Style

getPropertyValue
 setProperty

Event

initEvent
 preventDefault
 stopPropagation

XMLSerializer

serializeToString

XMLHTTP

open
 send

XMLDOM

loadXML

DOMParser

parseFromString

Mathematical



Control Flow

IFNULL
NULLIF
IF

String

ASCII
ORD
CONV
BIN,OCT,HEX
CHAR
CONCAT
CONCAT_WS
LENGTH
CHAR_LENGTH
BIT_LENGTH
LOCATE
INSTR
LPAD
RPAD
LEFT
RIGHT
SUBSTRING
MID
SUBSTRING_INDEX
LTRIM
RTRIM
TRIM
SOUNDEX
SPACE
REPLACE
REPEAT
REVERSE
INSERT
ELT
FIELD
LCASE
UCASE
LOAD_FILE
QUOTE

Comparison

STRCMP

Cast
CAST
CONVERT

Other

BIT_COUNT
DATABASE
USER
SYSTEM_USER
SESSION_USER
CURRENT_USER
PASSWORD
OLD_PASSWORD
ENCRYPT
DECODE
MD5
SHA1
AES_ENCRYPT
AES_DECRYPT
DES_ENCRYPT
DES_DECRYPT
LAST_INSERT_ID
FORMAT
VERSION
CONNECTION_ID
GET_LOCK
RELEASE_LOCK
IS_FREE_LOCK
BENCHMARK
INET_NTOA
INET_ATON
FOUND_ROWS

ABS
SIGN
MOD
FLOOR
CEILING
ROUND
DIV
EXP
LN
LOG,LOG2,LOG10
POW
POWER
SQRT
PI
COS
SIN
TAN
ACOS
ASIN
ATAN, ATAN2
COT
RAND
LEAST
GREATEST
DEGREES
RADIANS
TRUNCATE

Date and Time
DAYOFWEEK
WEEKDAY
DAYOFMONTH
DAYOFYEAR
MONTH
DAYNAME
MONTHNAME
QUARTER
WEEK
YEAR
YEARWEEK
HOUR
MINUTE
SECOND
PERIOD_ADD
PERIOD_DIFF
DATE_ADD
DATE_SUB
ADDDATE
SUBDATE
EXTRACT
TO_DAYS
FROM_DAYS
DATE_FORMAT
TIME_FORMAT
CURRENT_DATE
CURRENT_TIME
NOW
SYSDATE
UNIX_TIMESTAMP
FROM_UNIXTIME
SEC_TO_TIME
TIME_TO_SEC

Group
COUNT
AVG
MIN
MAX
SUM
GROUP_CONCAT
VARIANCE
STD
STDDEV
BIT_OR
BIT_AND

DATA TYPES		MYSQL FUNCTIONS IN PHP	
CHAR	String, length 0 - 255	mysql_affected_rows	
VARCHAR	String, length 0 - 255	mysql_close	
TINYTEXT	String, length 0 - 255	mysql_connect	
TEXT	String, length 0 - 65535	mysql_data_seek	
BLOB	String, length 0 - 65535	mysql_db_name	
MEDIUMTEXT	String, length 0 - 16777215	mysql_errno	
MEDIUMBLOB	String, length 0 - 16777215	mysql_error	
LONGTEXT	String, length 0 - 4294967295	mysql_fetch_array	
LOBLOB	String, length 0 - 4294967295	mysql_fetch_assoc	
* TINYINT	Integer, -128 to 127	mysql_fetch_field	
* SMALLINT	Integer, -32768 to 32767	mysql_fetch_lengths	
* MEDIUMINT	Integer, -8388608 to 8388607	mysql_fetch_object	
* INT	Integer, -2147483648 to 2147483647	mysql_fetch_row	
* BIGINT	Int, -9223372036854775808 to 9223372036854775807	mysql_field_flags	
FLOAT	Decimal (precise to 23 digits)	mysql_field_len	
DOUBLE	Decimal (24 to 53 digits)	mysql_field_name	
DECIMAL	"DOUBLE" stored as string	mysql_field_seek	
DATE	YYYY-MM-DD	mysql_field_table	
DATETIME	YYYY-MM-DD HH:MM:SS	mysql_field_type	
TIMESTAMP	YYMMDDHHMMSS	mysql_free_result	
TIME	HH:MM:SS	mysql_insert_id	
ENUM	One of preset options	mysql_list_dbs	
SET	Selection of preset options	mysql_list_processes	
		mysql_list_tables	
		mysql_num_fields	
		mysql_num_rows	
		mysql_pconnect	
		mysql_query	
		mysql_real_escape_string	
		mysql_select_db	

SAMPLE SELECT QUERIES		
SELECT * FROM tablename		# Returns all columns
SELECT column FROM tablename		# Returns specific column
SELECT COUNT(*) FROM tablename		# Returns number of rows
SELECT SUM(column) FROM tablename		# Returns sum of column
SELECT DISTINCT column FROM tablename		# Returns unique values of column
SELECT * FROM tablename WHERE condition		# Returns rows that match condition
SELECT * FROM tablename WHERE BINARY condition		# Condition is case-sensitive
SELECT * FROM table1 INNER JOIN table2 on table1.id = table2.id		# Join two tables, return all columns
SELECT table1.* FROM table1 INNER JOIN table2 on table1.id = table2.id		# Only return columns from table1
SELECT LAST_INSERT_ID() as new_id		# Returns ID of last created row
SELECT max(column) AS alias		# Return maximum value in column as "alias"
SELECT * FROM table ORDER BY column		# Return all rows ordering by column
SELECT * FROM table LIMIT 10, 20		# Return first 20 rows after row 10

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Array Functions	Regular Expression Functions	Date Formatting
array_diff (arr1, arr2 ...)	ereg (pattern, str)	Y 4 digit year (2008)
array_filter (arr, function)	split (pattern, str)	y 2 digit year (08)
array_flip (arr)	ereg_replace (pattern, replace, str)	F Long month (January)
array_intersect (arr1, arr2 ...)	preg_grep (pattern, arr)	M Short month (Jan)
array_merge (arr1, arr2 ...)	preg_match (pattern, str)	m Month ^ (01 to 12)
array_pop (arr)	preg_match_all (pattern, str, arr)	n Month (1 to 12)
array_push (arr, var1, var2 ...)	preg_replace (pattern, replace, str)	D Short day name (Mon)
array_reverse (arr)	preg_split (pattern, str)	l Long day name (Monday) (lowercase L)
array_search (needle, arr)		d Day ^ (01 to 31)
array_walk (arr, function)		j Day (1 to 31)
count (count)		
in_array (needle, haystack)		
		h 12 Hour ^ (01 to 12)
		g 12 Hour (1 to 12)
		H 24 Hour ^ (00 to 23)
		G 24 Hour (0 to 23)
		i Minutes ^ (00 to 59)
		s Seconds ^ (00 to 59)
		w Day of week ^ (0 to 6)
		z Day of year (0 to 365)
		W Week of year ^ (1 to 53)
		t Days in month (28 to 31)
		a am or pm
		A AM or PM
		B Swatch Internet Time (000 to 999)
		S Ordinal Suffix (st, nd, rd, th)
		T Timezone of machine (GMT)
		Z Timezone offset (seconds)
		O Difference to GMT (hours) (e.g., +0200)
		I Daylight saving (1 or 0)
		L Leap year (1 or 0)
		U Seconds since Epoch ^
		c ISO 8601 (PHP 5)
		2008-07-31T18:30:13+01:00
		r RFC 2822
		Thu, 31 Jul 2008 18:30:13 +0100
		1. 0 is Sunday, 6 is Saturday.
		2. Week that overlaps two years belongs to year that contains most days of that week. Hence week number for 1st January of a given year can be 53 if week belongs to previous year.
		date("W", mktime(0, 0, 0, 12, 8, \$year)) always gives correct number of weeks in \$year.
		3. The Epoch is the 1st January 1970.
		4. With leading zeroes
String Functions	Regular Expressions Syntax	
crypt (str, salt)	^ Start of string	
explode (sep, str)	\$ End of string	
implode (glue, arr)	. Any single character	
nl2br (str)	(a b) a or b	
sprintf (fmt, args)	(...) Group section	
strip_tags (str, allowed_tags)	[abc] Item in range (a, b or c)	
str_replace (search, replace, str)	[^abc] Not in range (not a, b or c)	
strpos (str, needle)	\s White space	
strrev (str)	a? Zero or one of a	
strstr (str, needle)	a* Zero or more of a	
strtolower (str)	a*? Zero or more of a, ungreedy	
strtoupper (str)	a+ One or more of a	
substr (string, start, len)	a+? One or more of a, ungreedy	
	a{3} Exactly 3 of a	
	a{3,} 3 or more of a	
	a{,6} Up to 6 of a	
	a{3,6} 3 to 6 of a	
	a{3,6}? 3 to 6 of a, ungreedy	
	\ Escape character	
	[:punct:] Any punctuation symbol	
	[:space:] Any space character	
	[:blank:] Space or tab	
Filesystem Functions	PCRE Modifiers	
clearstatcache ()	i Case-insensitive	
copy (source, dest)	s Period matches newline	
fclose (handle)	m ^ and \$ match lines	
fgets (handle, len)	U Ungreedy matching	
file (file)	e Evaluate replacement	
filemtime (file)	x Pattern over several lines	
filesize (file)		
file_exists (file)		
fopen (file, mode)		
fread (handle, len)		
fwrite (handle, str)		
readfile (file)		
fopen() Modes	Date and Time Functions	
r Read	checkdate (month, day, year)	
r+ Read and write, prepend	date (format, timestamp)	
w Write, truncate	getdate (timestamp)	
w+ Read and write, truncate	mktime (hr, min, sec, month, day, yr)	
a Write, append	strftime (formatstring, timestamp)	
a+ Read and write, append	strtotime (str)	
	time ()	

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