

CS 312 Java Class Reference

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Unit	Section	Package	Class	Return Value	Signature	Return or Purpose
1	3.2	lang*	Math	int	Math.abs(int value)	returns absolute value
1	3.2	lang*	Math	double	Math.abs(int double)	returns absolute value
1	3.2	lang*	Math	double	Math.ceil(double value)	returns closest integer that is greater in value, always returns double
1	3.2	lang*	Math	double	Math.floor(double value)	returns closest integer that is less in value, always returns double
1	3.2	lang*	Math	int	Math.max(int value1, int value2)	returns larger of value1 and value2
1	3.2	lang*	Math	double	Math.max(double value1, double value2)	returns larger of value1 and value2
1	3.2	lang*	Math	int	Math.min(int value1, int value2)	returns smaller of value1 and value2
1	3.2	lang*	Math	double	Math.min(double value1, double value2)	returns smaller of value1 and value2
1	3.2	lang*	Math	double	Math.pow(int base, int exp)	returns base to the exp power
1	3.2	lang*	Math	double	Math.pow(double base, double exp)	returns base to the exp power
1	3.2	lang*	Math	double	Math.sqrt(double value)	returns square root of value
1	3.2	lang*	Math	n/a	Math.E	2.7182818...
1	3.2	lang*	Math	n/a	Math.PI	3.1415926...
1	5.1	lang*	Math	double	Math.random()	returns random double between 0 and 1
1	5.1	lang*	Math	double	Math rint (double value)	returns value rounded to the nearest integer
1	3.3	lang*	String	int	str.length()	returns number of characters in this string
1	3.3	lang*	String	String	str.toLowerCase()	returns str with all lowercase letters
1	3.3	lang*	String	String	str.toUpperCase()	returns str with all uppercase letters
1	3.3	lang*	String	char	str.charAt(int index)	returns character at index in str
1	3.3	lang*	String	int	str1.indexOf(String str2)	returns index where the start of str2 string appears in str1 (-1 if not found)
1	3.3	lang*	String	String	str.substring(int index1, int index2)	returns String containing characters in str from index1 (inclusive) to index2 (exclusive)
1	3.3	lang*	String	String	str.substring(int index)	returns String of characters in str1 from index1 (inclusive) to end of string
2	5.3	lang*	String	boolean	str1.equals(String str2)	returns true if str1 and str2 contain the same characters, else false
2	5.3	lang*	String	boolean	str1.equalsIgnoreCase(String str2)	returns true if str1 and str2 contain the same characters ignoring upper/lower case, else false
2	5.3	lang*	String	void	str.trim()	returns str with whitespace at beginning and end removed
2	5.3	lang*	String	boolean	str1.startsWith(String str2)	returns true if str1 contains str2 at the beginning, else false
2	5.3	lang*	String	boolean	str1.endsWith(String str2)	returns true if str1 contains str2 at the end, else false
2	5.3	lang*	String	boolean	str1.contains(String str2)	returns true if str1 contains str2, else false
2	5.3	lang*	String	String	str.replace(char ch1, char ch2)	returns String with each instance of ch1 replaced by ch2 in str
2	5.3	lang*	String	String	str.replace(String str1, String str2)	returns String with each instance of str1 replaced by str2 in str
3	10.1	lang*	String	int	str1.compareTo(String str2)	returns 0 if str1 is equal to str2, <0 if str1 < str2 and >0 if str1 > str2
2	3.3	util	Scanner	int	sc.nextInt()	returns int from the input source
2	3.3	util	Scanner	double	sc.nextDouble()	returns double from the input source
2	3.3	util	Scanner	String	sc.next()	returns String from the input source
2	6.2	util	Scanner	boolean	sc.hasNext()	returns true if there is a token available on the input source, else false
2	6.2	util	Scanner	boolean	sc.hasNextInt()	returns true if there is a token that can be read as an int on input source, else false
2	6.2	util	Scanner	boolean	sc.hasNextDouble()	returns true if there is a token that can be read as a double on the input source, else false
2	6.3	util	Scanner	String	sc.nextLine()	returns line of input from the input source, from beginning of pointer to first newline
2	6.3	util	Scanner	boolean	sc.hasNextLine()	returns true if there are any more lines available on input source, else false

double check it's not earlier also

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2	3G.1	awt	Graphics	void	gr.drawLine(int x1, int y1, int x2, int y2)	draws line between points (x1, y1), (x2, y2)
2	3G.1	awt	Graphics	void	gr.drawOval(int x, int y, int width, int height)	draws outline largest oval that fits in a box of size width * height with top-left at (x, y)
2	3G.1	awt	Graphics	void	gr.drawRect(x, y, width, height)	draws outline of rectangle of size width * height with top-left at (x, y)
2	3G.1	awt	Graphics	void	gr.drawString(String text, int x, int y)	draws text with bottom-left at (x, y)
2	3G.1	awt	Graphics	void	gr.fillOval(int x, int y, int width, int height)	draws filled largest oval that fits in a box of size width * height with top-left at (x, y)
2	3G.1	awt	Graphics	void	gr.fillRect(int x, int y, int width, int height)	draws filled rectangle of size width * height with top-left at (x, y)
2	3G.1	awt	Graphics	void	gr.setColor(Color newColor)	sets Graphics object to draw in a given color
2	3G.1	N/A	DrawingPa	void	dp.setBackground(Color newColor)	sets the background color for a panel (not part of Java, included here for reference)
2	3G.2	N/A	DrawingPa	void	dp.sleep(int time)	pauses for time milliseconds
2	7.6	N/A	DrawingPa	Color[][]	dp.getPixels()	returns 2D array of Color objects representing pixels of a DrawingPanel
2	7.6	N/A	DrawingPa	void	dp.setPixels(Color[][])	updates a DrawingPanel's pixels based on 2D array of Color objects
2	3G.1	awt	Color	n/a	Color.RED, Color.GREEN, Color.BLUE, Color.MAGENTA, Color.CYAN, Color.YELLOW, Color.BLACK, Color.WHITE, Color.GRAY, Color.DARK_GRAY, Color.LIGHT_GRAY, Color.ORANGE, Color.PINK	constant representing a standard RGB color
2	7.6	awt	Color	int	cl.getRed()	returns cl's amount of red from 0 - 255
2	7.6	awt	Color	int	cl.getGreen()	returns cl's amount of green from 0 - 255
2	7.6	awt	Color	int	cl.getBlue()	returns cl's amount of blue from 0 - 255
2	5.1	util	Random	int	rand.nextInt()	returns a random integer between 0 and 2^32, the max integer value
2	5.1	util	Random	int	rand.nextInt(int max)	returns a random integer in the range [0, max), 0 to max-1 inclusive
2	5.1	util	Random	double	rand.nextDouble()	returns a random real number in the range [0.0, 1.0)
2	5.3	lang*	Integer	int	Integer.parseInt(String str)	returns an integer version of a String (for example, 10 instead of "10")
2	6.1	io	File	boolean	file.canRead()	returns whether file is a file that can be read by the current user, else false
2	6.1	io	File	boolean	file.exists()	returns true if file exists on disk, else false
2	6.1	io	File	String	file.getName()	returns file's name
2	6.1	io	File	long	file.length()	returns file's size in bytes
2	6.1	io	File	boolean	file.isDirectory()	returns true if file is a directory, else false
2	6.4	io	PrintStream	void	pr.print(str)	prints a string without a newline to an output target
2	6.4	io	PrintStream	void	pr.println(str)	prints a string with a newline to an output target
2	6.4	io	PrintStream	void	pr.printf(str, ...)	prints a formatted string to an output target
2	7.1	util	Arrays	Array	Arrays.copyOf(Array<E>arr, int length)	returns a copy of arr, including the first length elements
2	7.1	util	Arrays	boolean	Arrays.equals(Array<E> arr1, Array<E> arr2)	returns true if arr1 and arr2 contain the same elements in the same order, else false
2	7.1	util	Arrays	void	Arrays.fill(Array<E> arr, <E>value)	sets every element of arr to value
2	7.1	util	Arrays	void	Arrays.sort(Array<E>arr)	sorts elements of arr
2	7.1	util	Arrays	String	Arrays.toString(Array<E>arr)	returns a string representing arr, such as "[10, 30, -25, 17]"
3	10.1	util	ArrayList	void	alist.add(<E> value)	appends value at end of al
3	10.1	util	ArrayList	void	alist.add(int index, <E> value)	inserts value at the given index in al, shifting following values to the right
3	10.1	util	ArrayList	void	alist.clear()	removes all values in alist

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3	10.1	util	ArrayList	int	alist.indexOf(int value)	returns first index where value is found in alist (-1 if not found)
3	10.1	util	ArrayList	<E>	alist.get(index)	returns the value at index in alist
3	10.1	util	ArrayList	<E>	alist.remove(index)	removes and returns value at index in alist, shifting following values to the left
3	10.1	util	ArrayList	void	alist.set(int index, <E> value)	replaces element at index in alist with value
3	10.1	util	ArrayList	int	alist.size()	returns number of elements in alist
3	10.1	util	ArrayList	String	alist.toString()	returns string representation of alist such as "[3, 42, -7, 15]"
3	10.1	util	ArrayList	void	alist1.addAll(ArrayList<E> alist2)	adds all elements of alist2 to the end of alist1
3	10.1	util	ArrayList	void	alist1.addAll(int index, ArrayList<E> list2)	adds elements from alist2 to alist1 at index
3	10.1	util	ArrayList	boolean	alist.contains(<E> value)	returns true if value is found in alist, else false
3	10.1	util	ArrayList	boolean	alist1.containsAll(ArrayList<E> alist2)	returns true if alist1 contains every element of alist2, else false
3	10.1	util	ArrayList	boolean	alist1.equals(ArrayList<E> alist2)	returns true if alist1 and alist2 contain the same elements in the same order, else false
3	10.1	util	ArrayList	int	alist.lastIndexOf(<E> value)	returns last index value is found in alist (-1 if not found)
3	10.1	util	ArrayList	<E>	alist.remove(<E> value)	removes and returns first occurrence of value from alist
3	10.1	util	ArrayList	void	alist1.removeAll(ArrayList<E> alist2)	removes all elements in alist2 from alist1
3	10.1	util	ArrayList	void	alist1.retainAll(ArrayList<E> alist2)	keep all elements of alist2 found in alist1, remove all others from alist1
3	10.1	util	ArrayList	ArrayList	alist.subList(int index1, int index2)	returns an ArrayList of elements from alist, starting at index1 (inclusive) and ending at index2 (exclusive)
3	10.1	util	ArrayList	Array	alist.toArray()	returns an array containing the elements in alist
3	10.1	util	Collections	void	Collections.sort(alist)	sorts the elements of alist

* The lang package includes the basics of Java and doesn't require and import.