



大数据的MATLAB导入导出

《美国数学建模竞赛》

完整课程请长按下方二维码





1 调用xlsread函数读取数据

调用格式:

num = xlsread(filename)

num = xlsread(filename, -1)

num = xlsread(filename, sheet)

num = xlsread(filename, range)

num = xlsread(filename, sheet, range)

num = xlsread(filename, sheet, range, 'basic')

num = xlsread(filename, ..., functionhandle)

[num, txt] = xlsread(filename, ...)

[num, txt, raw] = xlsread(filename, ...)

[num, txt, raw, X] = xlsread(filename, ..., functionhandle)

xlsread filename sheet range basic



例 用xlsread函数读取文件A.xlsx第1个工作表中区域A2:H4 的数据

将数据A.xlsx放入默认路径下

读取文件A.xlsx第1个工作表中单元格A2:H4中的数据

num=xlsread('A.xlsx','A2:H4') % 返回读取的数据矩阵num

•>> num=xlsread('A.xlsx','A2:H4')

•num =

•	3	7	5	5	3	12	2	3
•	3	8	5	6	3	9	2	2
•	2	1	4	2	1	8	1	2



- 或者将数据A.xlsx放入D盘，调用第一个数据表中的A2:H4
- `num=xlsread('D:\A.xlsx','Sheet1','A2:H4')`
- 切记在全国大学生数学建模赛中不要这样用

• `>>> num=xlsread('D:\A.xlsx', 'Sheet1', 'A2:H4')`

• `num =`

•	3	7	5	5	3	12	2	3
•	3	8	5	6	3	9	2	2
•	2	1	4	2	1	8	1	2



2.把数据写入Excel文件

调用xlswrite函数把数据写到Excel文件

调用格式:

xlswrite(filename, M)

xlswrite(filename, M, sheet)

xlswrite(filename, M, range)

xlswrite(filename, M, sheet, range) M是需要插入的数据名称

status = xlswrite(filename, ...)

[status, message] = xlswrite(filename, ...)

xlswrite filename M sheet range



例 生成一个 5×6 的随机数矩阵，将它写入Excel文件B.xls的第2个工作表的指定区域

在MATLAB软件上操作如下：

生成一个5行6列的随机矩阵，其元素服从 $[0,1]$ 上的均匀分布

• `>> x=rand(5,6)` %因为是随机生成的，每次结果并不相同

• X =

•	0.7060	0.8235	0.4387	0.4898	0.2760	0.4984
•	0.0318	0.6948	0.3816	0.4456	0.6797	0.9597
•	0.2769	0.3171	0.7655	0.6463	0.6551	0.3404
•	0.0462	0.9502	0.7952	0.7094	0.1626	0.5853
•	0.0971	0.0344	0.1869	0.7547	0.1190	0.2238



把矩阵x写入文件B.xls(放在默认路径下)的第2个工作表中的单元格区域D6:I10, 并返回操作信息

`>> [s,t] = xlswrite('B.xls', x, Sheet2, 'D6:I10')`

The screenshot displays the MATLAB R2016a environment. The 'Import Wizard' is open, showing the 'Range' as 'D6:I10' and 'Sheet' as 'Sheet2'. The 'Import Data' section is set to 'Import data as numbers'. The resulting spreadsheet shows the following data:

VarName1	VarName2	VarName3	VarName4	VarName5	VarName6	VarName7	VarName8	VarName9	VarName10	VarName11	VarName12	VarName13
1												
2												
3												
4												
5												
6			0.7060	0.8235	0.4387	0.4898	0.2760	0.4868	#Error?	#Error?	#Error?	#Error?
7			0.0319	0.6948	0.3816	0.4456	0.6797	0.9597	#Error?	#Error?	#Error?	#Error?
8			0.2769	0.3171	0.7655	0.6463	0.6551	0.3404	#Error?	#Error?	#Error?	#Error?
9			0.0462	0.9502	0.7952	0.7094	0.1626	0.5853	#Error?	#Error?	#Error?	#Error?
10			0.0971	0.0344	0.1869	0.7547	0.1190	0.2238	#Error?	#Error?	#Error?	#Error?
11			#Error?	#Error?	#Error?	#Error?	#Error?	#Error?	#Error?	#Error?	#Error?	#Error?
12			#Error?	#Error?	#Error?	#Error?	#Error?	#Error?	#Error?	#Error?	#Error?	#Error?
13			#Error?	#Error?	#Error?	#Error?	#Error?	#Error?	#Error?	#Error?	#Error?	#Error?

The 'Command Window' on the right shows the following commands and output:

```
m = size(I, A)
n = size(A, 2)
clear all
clc
A = xlsread('A.xlsx')...
% -- 2020/2/1 0:56 -->
m = xlsread('A.xlsx')...
n = xlsread('A.xlsx')...
m = xlsread('A.xlsx')...
n = xlsread('D:\A.xlsx')...
x = rand(5, 6);
x = rand(5, 6);
[s, t] = xlswrite('B.xls', x, Sheet2, 'D6:I10')
```



例 定义一个元胞数组，将它写入Excel文件B.xls的自命名工作表的指定区域

```
>> x = {1,60101,6010101,'陈亮',63,";2,60101,6010102,'李旭',73,";3,60101,...  
6010103,'刘鹏飞',0,'缺考'} % 定义一个元胞数组
```

```
x =
```

[1]	[60101]	[6010101]	'陈亮'	[63]	''
[2]	[60101]	[6010102]	'李旭'	[73]	''
[3]	[60101]	[6010103]	'刘鹏飞'	[0]	'缺考'

把元胞数组x写入文件D盘的B.xls的指定工作表（Sheet1）中的单元格区域A3:F5

```
>> xlswrite('D:\B.xls', x, 'Sheet1', 'A3:F5')
```