

WESTERN SYDNEY
UNIVERSITY



Module 4

Logical Indexing

Introduction

- ‘Logical indexing’ is when logical arrays are used to index an array.

For example:

```
b = [true; true; false]
```

```
a = [2 4 5]
```

```
a(b)
```

```
Result is [2 4]
```

- In this example, the logical vector **b** is the index of the array **a**.
- Whenever FALSE is the index of an array, the corresponding element of the array is ignored

Subscripting with logical vectors

```
a = [-2 0 1 5 9 3]
```

```
a(logical([0 1 1 0 1 0]))
```

```
% same as a([2 3 5])
```

```
ans =
```

```
0 1 9
```

- The statement `a(logical([0 1 1 0 1 0]))` returns

```
0 1 9
```

i.e. it ignores all elements that respond to a logical 0

- The statement `a([2 3 5])` gives

```
0 1 9
```