Summation of Values in a Matrix

2	8	7	9
1	5	6	7
2	3	1	5

```
1   mat1 = [2 8 7 9; 1 5 6 7;2 3 1 5];
2   sumv = 0;
3   for ii=1:3
4       for jj=1:4
5           sumv = sumv + mat1(ii,jj);
6       end
7   end
```

Summation of Values in a Matrix

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6       end
7   end
```

`mat1(ii,jj)`

`ii → 1`
`jj → 1`
`sumv → 2`

Summation of Values in a Matrix

2	8	7	9
1	5	6	7
2	3	1	5

```
1   mat1 = [2 8 7 9; 1 5 6 7;2 3 1 5];
2   sumv = 0;
3   for ii=1:3
4       for jj=1:4
5           sumv = sumv + mat1(ii,jj);
6       end
7   end
```

`mat1(ii,jj)`

```
ii → 1
jj → 2
sumv → 10
```

Summation of Values in a Matrix

2	8	7	9
1	5	6	7
2	3	1	5

```
1  mat1 = [2 8 7 9; 1 5 6 7;2 3 1 5];
2  sumv = 0;
3  for ii=1:3
4      for jj=1:4
5          sumv = sumv + mat1(ii,jj);
6      end
7  end
```

```
mat1(ii,jj)
```

```
ii → 1
jj → 3
sumv → 17
```

Summation of Values in a Matrix

2	8	7	9
1	5	6	7
2	3	1	5

```
1  mat1 = [2 8 7 9; 1 5 6 7;2 3 1 5];
2  sumv = 0;
3  for ii=1:3
4      for jj=1:4
5          sumv = sumv + mat1(ii,jj);
6      end
7  end
```
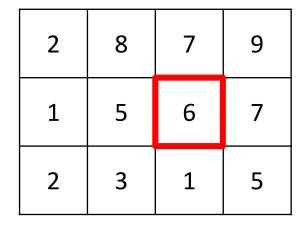
`mat1(ii,jj)`

ii → 1
jj → 4
sumv → 26

Summation of Values in a Matrix

2	8	7	9
1	5	6	7
2	3	1	5

```
1   mat1 = [2 8 7 9; 1 5 6 7;2 3 1 5];
2   sumv = 0;
3   for ii=1:3
4       for jj=1:4
5           sumv = sumv + mat1(ii,jj);
6       end
7   end
```

`mat1(ii,jj)`

ii → 2
jj → 1
sumv → 27

Summation of Values in a Matrix

2	8	7	9
1	5	6	7
2	3	1	5

```
1   mat1 = [2 8 7 9; 1 5 6 7;2 3 1 5];
2   sumv = 0;
3   for ii=1:3
4       for jj=1:4
5           sumv = sumv + mat1(ii,jj);
6       end
7   end
```

`mat1(ii,jj)`

```
ii → 2
jj → 2
sumv → 32
```

Summation of Values in a Matrix

2	8	7	9
1	5	**6**	7
2	3	1	5

```
1   mat1 = [2 8 7 9; 1 5 6 7;2 3 1 5];
2   sumv = 0;
3   for ii=1:3
4       for jj=1:4
5           sumv = sumv + mat1(ii,jj);
6       end
7   end
```

`mat1(ii,jj)`

ii → 2
jj → 3
sumv → 38

Summation of Values in a Matrix

2	8	7	9
1	5	6	7
2	3	1	5

```
1  mat1 = [2 8 7 9; 1 5 6 7;2 3 1 5];
2  sumv = 0;
3  for ii=1:3
4      for jj=1:4
5          sumv = sumv + mat1(ii,jj);
6      end
7  end
```

`mat1(ii,jj)`

`ii → 2`
`jj → 4`
`sumv → 45`

Word Finder Puzzle

a	v	d	a	k	w	a	l	h	z
w	j	s	a	u	e	a	u	g	x
d	h	q	d	k	r	d	y	f	c
f	b	w	y	k	t	f	t	d	v
d	a	e	u	h	u	v	r	s	b
s	n	f	l	s	h	e	w	q	n
a	a	d	w	s	t	q	e	w	m
q	n	s	e	d	n	w	w	e	l
y	a	a	s	f	h	e	q	y	k
q	w	e	r	t	y	u	l	h	j

test_word

col_vec

puzzle_size → 10
n_word → 6
puzzle_size-n_word+1 → 5

```
for ii=1:puzzle_size
    col_vec = puzzle(:,ii);
    for jj=1:(puzzle_size-n_word+1)
        test_loc = jj:(jj+n_word-1);
        test_word = col_vec(test_loc);
    end
end
```

ii → 1
jj → 1
test_loc → [1:6]

Word Finder Puzzle

a	v	d	a	k	w	a	l	h	z
w	j	s	a	u	e	a	u	g	x
d	h	q	d	k	r	d	y	f	c
f	b	w	y	k	t	f	t	d	v
d	a	e	u	h	u	v	r	s	b
s	n	f	l	s	h	e	w	q	n
a	a	d	w	s	t	q	e	w	m
q	n	s	e	d	n	w	w	e	l
y	a	a	s	f	h	e	q	y	k
q	w	e	r	t	y	u	l	h	j

test_word

col_vec

```
puzzle_size → 10
n_word → 6
puzzle_size-n_word+1 → 5
```

```
for ii=1:puzzle_size
    col_vec = puzzle(:,ii);
    for jj=1:(puzzle_size-n_word+1)
        test_loc = jj:(jj+n_word-1);
        test_word = col_vec(test_loc);
    end
end
```

```
ii → 1
jj → 2
test_loc → [2:7]
```

Word Finder Puzzle

a	v	d	a	k	w	a	l	h	z
w	j	s	a	u	e	a	u	g	x
d	h	q	d	k	r	d	y	f	c
f	b	w	y	k	t	f	t	d	v
d	a	e	u	h	u	v	r	s	b
s	n	f	l	s	h	e	w	q	n
a	a	d	w	s	t	q	e	w	m
q	n	s	e	d	n	w	w	e	l
y	a	a	s	f	h	e	q	y	k
q	w	e	r	t	y	u	l	h	j

test_word

col_vec

```
puzzle_size → 10
n_word → 6
puzzle_size-n_word+1 → 5
```

```
for ii=1:puzzle_size
    col_vec = puzzle(:,ii);
    for jj=1:(puzzle_size-n_word+1)
        test_loc = jj:(jj+n_word-1);
        test_word = col_vec(test_loc);
    end
end
```

```
ii → 1
jj → 3
test_loc → [3:7]
```

Word Finder Puzzle

a	v	d	a	k	w	a	l	h	z
w	j	s	a	u	e	a	u	g	x
d	h	q	d	k	r	d	y	f	c
f	b	w	y	k	t	f	t	d	v
d	a	e	u	h	u	v	r	s	b
s	n	f	l	s	h	e	w	q	n
a	a	d	w	s	t	q	e	w	m
q	n	s	e	d	n	w	w	e	l
y	a	a	s	f	h	e	q	y	k
q	w	e	r	t	y	u	l	h	j

test_word
col_vec

puzzle_size → 10
n_word → 6
puzzle_size-n_word+1 → 5

```
for ii=1:puzzle_size
    col_vec = puzzle(:,ii);
    for jj=1:(puzzle_size-n_word+1)
        test_loc = jj:(jj+n_word-1);
        test_word = col_vec(test_loc);
    end
end
```

ii → 1
jj → 4
test_loc → [4:8]

Word Finder Puzzle

a	v	d	a	k	w	a	l	h	z
w	j	s	a	u	e	a	u	g	x
d	h	q	d	k	r	d	y	f	c
f	b	w	y	k	t	f	t	d	v
d	a	e	u	h	u	v	r	s	b
s	n	f	l	s	h	e	w	q	n
a	a	d	w	s	t	q	e	w	m
q	n	s	e	d	n	w	w	e	l
y	a	a	s	f	h	e	q	y	k
q	w	e	r	t	y	u	l	h	j

test_word
col_vec

```
puzzle_size → 10
n_word → 6
puzzle_size-n_word+1 → 5
```

```
for ii=1:puzzle_size
    col_vec = puzzle(:,ii);
    for jj=1:(puzzle_size-n_word+1)
        test_loc = jj:(jj+n_word-1);
        test_word = col_vec(test_loc);
    end
end
```

```
ii → 1
jj → 5
test_loc → [5:9]
```

Word Finder Puzzle

a	v	d	a	k	w	a	l	h	z
w	j	s	a	u	e	a	u	g	x
d	h	q	d	k	r	d	y	f	c
f	b	w	y	k	t	f	t	d	v
d	a	e	u	h	u	v	r	s	b
s	n	f	l	s	h	e	w	q	n
a	a	d	w	s	t	q	e	w	m
q	n	s	e	d	n	w	w	e	l
y	a	a	s	f	h	e	q	y	k
q	w	e	r	t	y	u	l	h	j

test_word
col_vec

```
puzzle_size → 10
n_word → 6
puzzle_size-n_word+1 → 5
```

```
for ii=1:puzzle_size
    col_vec = puzzle(:,ii);
    for jj=1:(puzzle_size-n_word+1)
        test_loc = jj:(jj+n_word-1);
        test_word = col_vec(test_loc);
    end
end
```

```
ii → 2
jj → 1
test_loc → [1:6]
```

Word Finder Puzzle

a	v	d	a	k	w	a	l	h	z
w	j	s	a	u	e	a	u	g	x
d	h	q	d	k	r	d	y	f	c
f	b	w	y	k	t	f	t	d	v
d	a	e	u	h	u	v	r	s	b
s	n	f	l	s	h	e	w	q	n
a	a	d	w	s	t	q	e	w	m
q	n	s	e	d	n	w	w	e	l
y	a	a	s	f	h	e	q	y	k
q	w	e	r	t	y	u	l	h	j

test_word

col_vec

```
puzzle_size → 10
n_word → 6
puzzle_size-n_word+1 → 5
```

```
for ii=1:puzzle_size
    col_vec = puzzle(:,ii);
    for jj=1:(puzzle_size-n_word+1)
        test_loc = jj:(jj+n_word-1);
        test_word = col_vec(test_loc);
    end
end
```

```
ii → 2
jj → 2
test_loc → [2:7]
```

Word Finder Puzzle

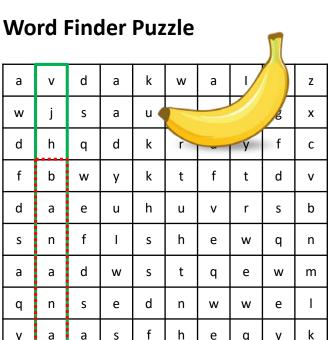| a	v	d	a	k	w	a	l	h	z
w	j	s	a	u	e	a	u	g	x
d	h	q	d	k	r	d	y	f	c
f	b	w	y	k	t	f	t	d	v
d	a	e	u	h	u	v	r	s	b
s	n	f	l	s	h	e	w	q	n
a	a	d	w	s	t	q	e	w	m
q	n	s	e	d	n	w	w	e	l
y	a	a	s	f	h	e	q	y	k
q	w	e	r	t	y	u	l	h	j

test_word
col_vec

```
puzzle_size → 10
n_word → 6
puzzle_size-n_word+1 → 5
```

```
for ii=1:puzzle_size
    col_vec = puzzle(:,ii);
    for jj=1:(puzzle_size-n_word+1)
        test_loc = jj:(jj+n_word-1);
        test_word = col_vec(test_loc);
    end
end
```

```
ii → 2
jj → 3
test_loc → [3:7]
```

Word Finder Puzzle

a	v	d	a	k	w	a	l		z
w	j	s	a	u			g	x	
d	h	q	d	k	r	a	y	f	c
f	b	w	y	k	t	f	t	d	v
d	a	e	u	h	u	v	r	s	b
s	n	f	l	s	h	e	w	q	n
a	a	d	w	s	t	q	e	w	m
q	n	s	e	d	n	w	w	e	l
y	a	a	s	f	h	e	q	y	k
q	w	e	r	t	y	u	l	h	j

test_word
col_vec

```
puzzle_size → 10
n_word → 6
puzzle_size-n_word+1 → 5
```

```
for ii=1:puzzle_size
    col_vec = puzzle(:,ii);
    for jj=1:(puzzle_size-n_word+1)
        test_loc = jj:(jj+n_word-1);
        test_word = col_vec(test_loc);
    end
end
```

```
ii → 2
jj → 4
test_loc → [4:8]
```

Word Finder Puzzle

a	v	d	a	k	w	a	l	h	z
w	j	s	a	u	e	a	u	g	x
d	h	q	d	k	r	d	y	f	c
f	b	w	y	k	t	f	t	d	v
d	a	e	u	h	u	v	r	s	b
s	n	f	l	s	h	e	w	q	n
a	a	d	w	s	t	q	e	w	m
q	n	s	e	d	n	w	w	e	l
y	a	a	s	f	h	e	q	y	k
q	w	e	r	t	y	u	l	h	j

test_word
col_vec

```
puzzle_size → 10
n_word → 6
puzzle_size-n_word+1 → 5
```

```
for ii=1:puzzle_size
    col_vec = puzzle(:,ii);
    for jj=1:(puzzle_size-n_word+1)
        test_loc = jj:(jj+n_word-1);
        test_word = col_vec(test_loc);
    end
end
```

```
ii → 2
jj → 5
test_loc → [5:9]
```