# Check of a no is Prime    $[2 - (n-1)]$

$O(n)$ ←

```
for( i=2; i<= n-1; i++) {
    if (n % i == 0) {
        ret false;
    }
}
ret true;
```

$\frac{100}{}$

$i$  $\boxed{0}$  $N/i$        $N/i$ ←    $\sqrt{n}$    $\boxed{\frac{N}{i}}$

$(1, 2, 4, 5, 10, 20, 25, 50, 100)$

$\frac{100}{4}$         $i \neq N$       $\boxed{i <= N/i}$

$i^2 <= N \rightarrow (i <= \sqrt{N})$

---

# Boundary Traversal        $n$

$(n-1)$

|   | 0 | 1 | 2 |
|---|---|---|---|
| 0 | 5 | 10 | 15 |
| 1 | 20 | 25 | 30 |
| 2 | 35 | 40 | 45 |

↓ $m$

```
for (c=0; c<n; c++) {
    sout (arr[0][c])
}
```

```
for (int i=1; i< m; i++) {
    sout (arr[i][n-1]);
}
```

# find the Way

(A) whenever you have to work with direction, take direction as an int variable and give a value to all the 4 directions


div
0 (right), 1 (down), 2 (left), 3 (up)
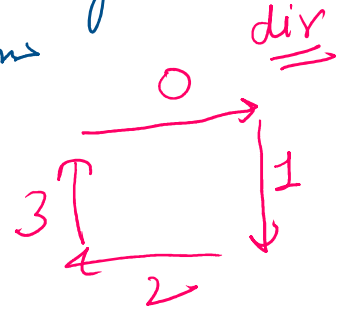
# Sum of upper and lower △



| 1 | 2 | 3 |
|---|---|---|
| 1 | 5 | 3 |
| 4 | 5 | 6 |

**upper**

$(0,0)$ $(1,1)$ $(2,2)$

$(0,1)$ $(0,2)$ $(1,2)$

$\boxed{i \le j}$

**lower**

$(0,0)$ $(1,1)$ $(2,2)$

$(1,0)$ $(2,0)$ $(2,1)$

$\boxed{i \ge j}$

# Spiral Traversal

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| 5 | 6 | 7 | 8 |

1 2 3 4 8 12 16 15 14 13

9 5 6 7 11 10

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 |

$9 \ 5 \quad 6 \ 7 \quad 11 \ 10$

left    right

top →

bottom →
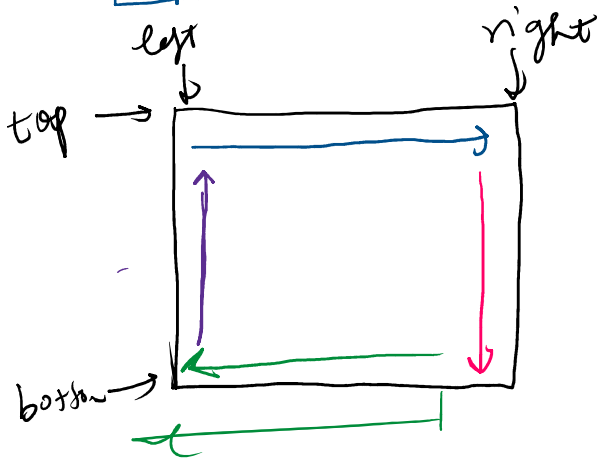
```
top = 0
bottom = n-1
left = 0
right = c-1

for (i = left; i <= right; i++) {
    cout << arr[top][i];
}   top++

arr[top][i]    (blue)

for (i = top; i <= bottom; i++)
arr[i][right]    (pink)

arr[i][left]    (purple)

arr[bottom][i]   (green)
```

$3 \ 7 \ 2$ 　　　　 $71$

　　　　　 $3 \ 7 \ 2$ 　　 $3 \ 5 \ 4$
　　　　　　　　　　　　 $3 \ 7 \ 2$
　　　　 $3 \ 5 \ 4$