

Decision Making, Looping & Branching

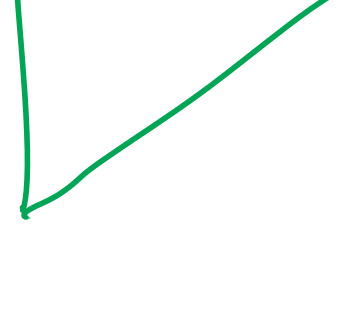
Looping Statements: →

- ① while loop → not finite "Uncertain" Entry-controlled loop
- ② do-while loop Exit-controlled loop
- ③ nested loops
- ④ for loop finite → no. of iterations known
- ⑤ Enhanced for loop or for-each loop

for (initialization; condition; inc/dec) {
statements;
}

for (int i=1; i<=n; i++)
{
 cout << i;
}

n=5
1 * 1
2 * * 2
 * * *
 * * * *
 * * * * *



for (i=1; i<=n; i++)
 for (int j=1; j<=i; j++)
 s.o. print ()
 cout << endl;

SDE	SDT	SDI
C++	Java	Python

(SDLC) → Agile → DevOps r=6 c=7

TCS / Accenture / IBM / DXC | Oracle Static

* Break into parts (similarity)

	0	1	2	3	4	5	6
0		*	*		*	*	
1	*			*			*
2	*		*			*	
3		*		*			*
4	*		*		*		
5		*		*		*	

P1: r=0
 c=1,2,4,5
 c-1,3 != 0

P2: r=1 c=0,3,6 c-1,3 == 0

P3: r-c == 2 P4: r+c == 8

2-0 = 2 2+6 = 8
3-1 = 2 3+5 = 8
4-2 = 2 4+4 = 8
5-3 = 2

(Interviews May 2025)

BMS & REVA

r+c	0	1	2	3	4	5	6
0				*			
1		*			*		
2		*	*			*	
3	*		*	*			*
4	*	*		*	*		*
5		*	*	*	*	*	*

r+c=3 * (r-c) = -3
 * (c-r) = 3

r==5 && c-1,3 != 0
r==4 && c-1,3 == 0

Dynamic Patterns: → row=3 col=9,13,17,21,25,...

	1	2	3	4	5	6	7	8	9	10	11	12	13
1							*				*		
2		*			*		*		*		*		*
3	*		*		*		*		*		*		*

Preparation Top 100 codes 3 mins

Zig Zag Pattern 2 mins

① r+c-1,4 == 0
② r==2 && c-1,4 == 0

r1 → 3,7,11 → 4 c-1,4 == 3
r2 → even no c-1,2 == 0
r3 → 1,5,9,13 → 4 c-1,4 == 1

1001, 0110, 0010
n=9, n=6, 0011

How do you check if n is odd or even?

(n/2) * i

0010
2 0001

 0

Cognizant → (2022/23/24/25)

How do you check whether a given integer 'n' is a "Power of 2"

10000
01111
n & (n-1) == 0

n=4 2^2 True
n=9 x false
n=16 2^4 True
n=12 x false

0100
0011

 0
1000
0111

 0

128 64 32 16 8 4 2 1

Only 1 set bit

1 0 0 0
1 0 0 0
1 0 0 0
1 0 0 0

 0

i=1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1				*												
2			*	*	*											
3		*	*	*	*	*										
4	*	*	*	*	*	*	*									
5	*	*	*	*	*	*	*	*								

4 spaces 1st row 4 spaces
3 " 2nd row 3 "
2 " 3rd row 2 "
1 " 4th row 1 "
0 " 5th row 0 "

Spaces n-i
4
3
2
1
0

Stars 2xi-1
1
3
5
7
9

Developer
Local Area
empty folder
index.html
style.css
script.js

git → version control tool
git init (empty git repository)
git add <file>
git add .
git commit -m "message"

(Untracked Area)

Tracking Area
Staging Area (checksum)



SDLC Working tree

Meta
Fb
Amazon Prime
Netflix
Youtube

everything else 23.5

Studies

(30 mins)

1 month
900 mins