

Doublets

~~1). Alternate Row~~

~~2). Rotation of Array~~

3). Diff of Array

~~4). Pattern 3~~

~~5). Factorial Challenge → Noes~~

6). Toggle & 2 Jumps

7). Swap in array

8) Divide by
2 3 5

Print Alternate Row (15 July)

$x = 4 ; c = 6$

0 1 2 3 4 5

→ 0

even

1

→ 2

3

2	3	8	7	0	4
0	7	6	7	3	5
0	0	8	1	0	8
9	1	9	5	3	0

```

public static void main(String[] args) {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */

    // input from user as per ques
    Scanner scn = new Scanner(System.in);
    int m = scn.nextInt();
    int n = scn.nextInt();
    int[][] arr = new int[m][n];

    for (int i = 0; i < m; i++) {
        for (int j = 0; j < n; j++) {
            arr[i][j] = scn.nextInt();
        }
    }

    printAlternateRows(arr);
}

public static void printAlternateRows(int[][] arr) {

    for (int i = 0; i < arr.length; i++) {
        for (int j = 0; j < arr[i].length; j++) {
            if (i % 2 == 0) {
                System.out.print(arr[i][j] + " ");
            }
        }
        if (i % 2 == 0) {
            System.out.println();
        }
    }
}

```

Readability of code

- Modules → divide in method → Singly Responsible
- Proper comments
- Good variable names as per naming convention
- Indentation → spaces b/w statements

Rotation

2 ↓

	0	1	2	3	4
<u>R=0</u>	1	2	3	4	5
<u>R=1</u>	5	1	2	3	4
<u>R=2</u>	4	5	1	2	3
<u>R=3</u>	3	4	5	1	2
<u>R=4</u>	2	3	4	5	1
<u>R=5</u>	1	2	3	4	5
<u>R=6</u>	5	1	2	3	4
<u>R=7</u>	4	5	1	2	3
<u>R=-1</u>	2	3	4	5	1
<u>R=-2</u>	3	4	5	1	2

R > 0

n = 5

$R = 7 \div 5$
 $= 2$

$R = 7 \rightarrow R = 2$

$R = 106 \rightarrow R \div 5 \Rightarrow 1$

$R < 0$

$R = -2 \Rightarrow -2 \div 5 = -2 + 5$
 $= 3$

$\Rightarrow R = (R \div n + n) \quad (R < 0)$

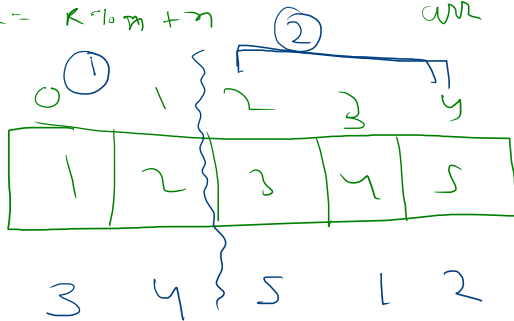
$\Rightarrow R = R \div n \quad (R > 0)$

$$R \geq 0 \Rightarrow R = R \% n$$

$$R < 0 \Rightarrow R = R \% n + n$$

$n = \text{no. of elements in arr}$

arr



$$k = -2$$

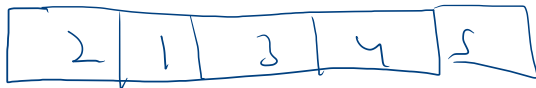
↓

$$k = -2 \cdot 5 + 5$$

$$= -2 + 5$$

$$= 3$$

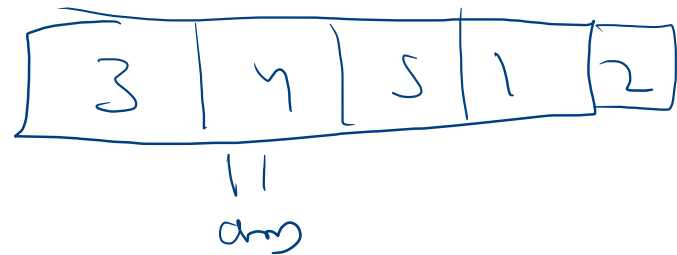
Step 1 → Reverse Part 1



Step 2 → Reverse part 2



Step 3 → Reverse whole arr



Print the given pattern 3

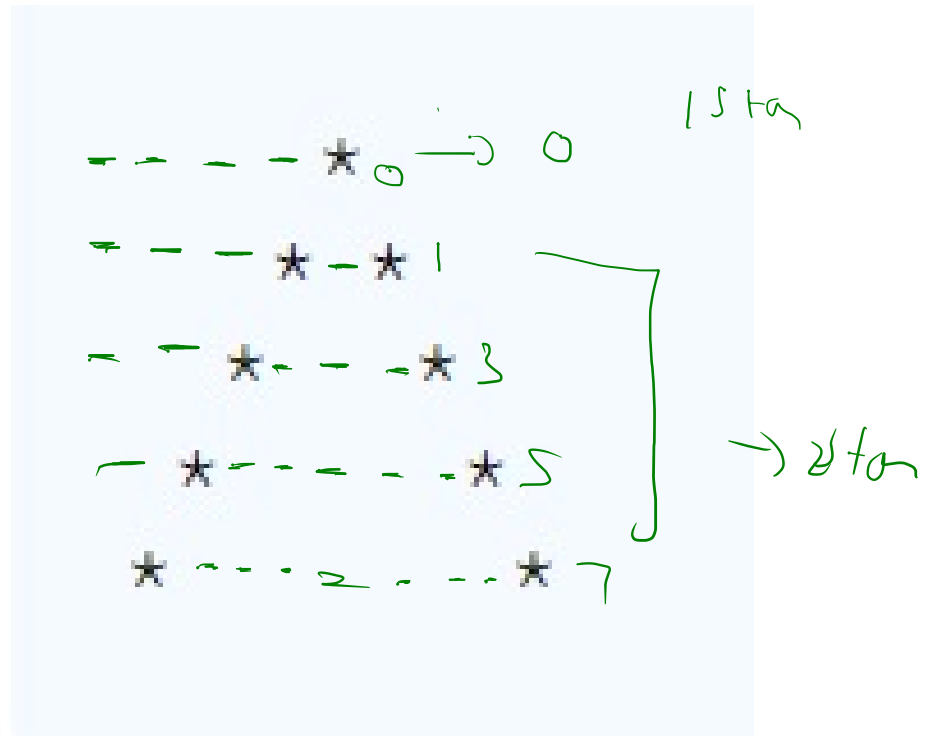
SPau

$$0 \text{ SP}_1 = n-1$$

$$1 \text{ SP}_2 = -1$$

$$0 \text{ SP}_1 = -$$

$$2 \text{ SP}_2 = 2$$



```
int n = 5;

int os = n - 1;
int is = -1;

for (int row = 0; row < n; row++) {
    for (int sp = 1; sp <= os; sp++) {
        System.out.print(" ");
    }

    System.out.print("*");

    for (int sp = 1; sp <= is; sp++) {
        System.out.print(" ");
    }

    if (row != 0) {
        System.out.print("*");
    }

    os--;
    is+=2;
    System.out.println();
}
```


$$n = 5$$

$$n! = 5! = 120$$

$$5 \times 4 \times 3 \times 2 \times 1$$

$$ans = 1;$$

$$(i = 5; i >= 1; i--) \{$$

$$ans = ans \times i$$

}

$$\text{W/m2 } 5! = 120$$

$$\text{Total} = 2hgvgpw8e3$$

$$\text{String} = ans + 120 + \text{Total}$$

$$= 1202hgvgpw8e3$$

$$\begin{array}{cccc} \downarrow & \downarrow & \downarrow & \downarrow \\ x & x & x & x \end{array}$$

$$12x2hxvgxwx8x3$$

Swap x y z

$$x = 5$$

$$y = 10$$

$$z = 15$$

$$x = 15$$

$$y = 5$$

$$z = 10$$

oop

$$\begin{array}{ccc} x & y & z \\ 5 & 10 & 15 \end{array}$$

$$\text{arr} \rightarrow \begin{array}{ccc} 15 & 5 & 10 \end{array}$$

$$a = 5$$

$$b = 10$$

$$c = 15$$

$$x = c$$

$$y = a$$

$$z = b$$

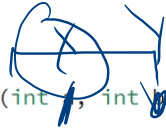
```

Scanner scn = new Scanner(System.in);
int x = scn.nextInt();
int y = scn.nextInt();
int z = scn.nextInt();

swap(x,y);
swap(y,z);
swap(z,x);
}

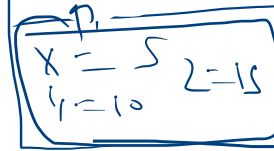
public static void swap(int a, int b)
{
    int temp;
    temp = a;
    a=b;
    b=temp;
    System.out.println();
}

```



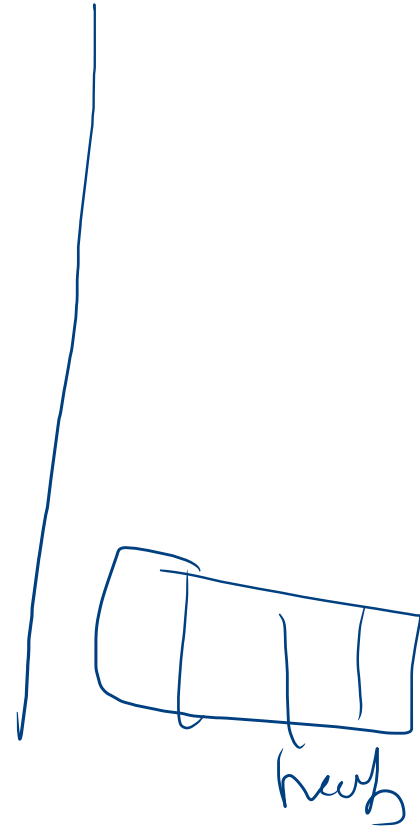
swap(x,y)

main

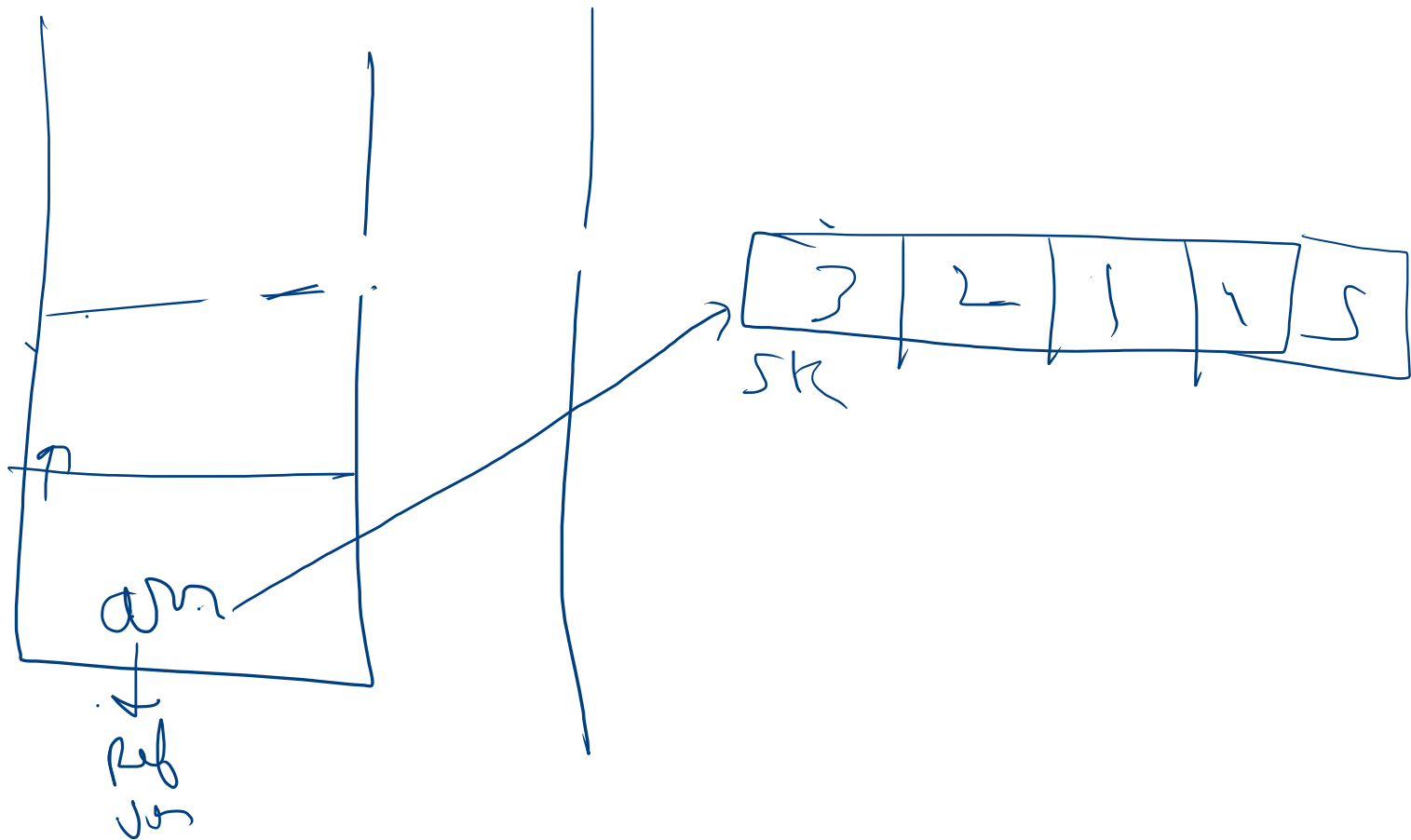


Stack

Program



Man



OOPS → MCU's

Git → learn

Open Source →

priced



billions of
priced

PI

DSA

Toggle and 2 jumps left

ZIP → Character

Family

ZIP → a, A, b, B

t → T → R
T → t → R

Toggle Result

P Q R S T → R OHP

A → a → Sorry

1/2/20

① ZIP Not char → No Alphabet
← ZIP char

① \rightarrow if (isNotChar(ch) \rightarrow No alphabet

② \rightarrow if (ch \rightarrow [a, A, b, B]) \rightarrow Sorry

③ \rightarrow if (ch not in [a, A, b, B]) \rightarrow toggle \rightarrow the shift

④ \rightarrow a, z \rightarrow 97 \leftrightarrow 122

A, Z \rightarrow 65 \leftrightarrow 90

\rightarrow (ch \geq 97 && ch \leq 122) || (ch \geq 65 && ch \leq 90)

\rightarrow Character.isLetter(ch) \rightarrow T/F

total

$d \rightarrow D$
↓

↓

S =	a	b	c	d	e	f
	97	98	99	100	101	102

C =	A	B	C	D	E	F
	65	66	67	68	69	70

S - C \Rightarrow 32 32 32 32 32 32

$S \rightarrow C \Rightarrow S - 32$

$a \rightarrow A \Rightarrow 97 - 32 = \boxed{65} \rightarrow A$

$C - S \Rightarrow C + 32$

$A \rightarrow a \Rightarrow 65 + 32 = 97$