

Multiplication Table

Print Style One

Col Row	1	2	3	4	5	6	7	8	9
1	$1 \times 1 = 1$	$1 \times 2 = 2$	$1 \times 3 = 3$	$1 \times 4 = 4$	$1 \times 5 = 5$	$1 \times 6 = 6$	$1 \times 7 = 7$	$1 \times 8 = 8$	$1 \times 9 = 9$
2		$2 \times 2 = 4$	$2 \times 3 = 6$	$2 \times 4 = 8$	$2 \times 5 = 10$	$2 \times 6 = 12$	$2 \times 7 = 14$	$2 \times 8 = 16$	$2 \times 9 = 18$
3			$3 \times 3 = 9$	$3 \times 4 = 12$	$3 \times 5 = 15$	$3 \times 6 = 18$	$3 \times 7 = 21$	$3 \times 8 = 24$	$3 \times 9 = 27$
4				$4 \times 4 = 16$	$4 \times 5 = 20$	$4 \times 6 = 24$	$4 \times 7 = 28$	$4 \times 8 = 32$	$4 \times 9 = 36$
5					$5 \times 5 = 25$	$5 \times 6 = 30$	$5 \times 7 = 35$	$5 \times 8 = 40$	$5 \times 9 = 45$
6						$6 \times 6 = 36$	$6 \times 7 = 42$	$6 \times 8 = 48$	$6 \times 9 = 54$
7							$7 \times 7 = 49$	$7 \times 8 = 56$	$7 \times 9 = 63$
8								$8 \times 8 = 64$	$8 \times 9 = 72$
9									$9 \times 9 = 81$

Print Style Two

Col Row	1	2	3	4	5	6	7	8	9
1	$1 \times 1 = 1$								
2	$1 \times 2 = 2$	$2 \times 2 = 4$							
3	$1 \times 3 = 3$	$2 \times 3 = 6$	$3 \times 3 = 9$						
4	$1 \times 4 = 4$	$2 \times 4 = 8$	$3 \times 4 = 12$	$4 \times 4 = 16$					
5	$1 \times 5 = 5$	$2 \times 5 = 10$	$3 \times 5 = 15$	$4 \times 5 = 20$	$5 \times 5 = 25$				
6	$1 \times 6 = 6$	$2 \times 6 = 12$	$3 \times 6 = 18$	$4 \times 6 = 24$	$5 \times 6 = 30$	$6 \times 6 = 36$			
7	$1 \times 7 = 7$	$2 \times 7 = 14$	$3 \times 7 = 21$	$4 \times 7 = 28$	$5 \times 7 = 35$	$6 \times 7 = 42$	$7 \times 7 = 49$		
8	$1 \times 8 = 8$	$2 \times 8 = 16$	$3 \times 8 = 24$	$4 \times 8 = 32$	$5 \times 8 = 40$	$6 \times 8 = 48$	$7 \times 8 = 56$	$8 \times 8 = 64$	
9	$1 \times 9 = 9$	$2 \times 9 = 18$	$3 \times 9 = 27$	$4 \times 9 = 36$	$5 \times 9 = 45$	$6 \times 9 = 54$	$7 \times 9 = 63$	$8 \times 9 = 72$	$9 \times 9 = 81$

```

package Code_Exercise;

public class MultiplicationTable {

    private int min = 1, max = 9; //min - 起始值 , max - 终止值

    private String table, line, // table - 乘法表 , line - 表行
        head, item, tail, //head - 行头 , item - 表项 , tail - 行尾
        interval, formula; //interval - 间隔 , formula - 公式

    public MultiplicationTable(int min, int max){
        this.min = min;
        this.max = max;
    }

    public static void main(String[] args){
        MultiplicationTable table = new MultiplicationTable(1,9);
        table.printStyleOne();
        table.printStyleTwo();
    }

    public void printStyleOne(){
        table = "";
        for(int row = min; row <= max; row++){
            head = space('\t', row);
            item = "";
            for(int col = row; col <= max; col++){
                interval = space('\t', 1);
                formula = row + "*" + col + "=" + row * col;
                item += interval + formula;
            }
            tail = space('\n', 1);
            line = head + item + tail;
            table += line;
        }
        System.out.print(table);
    }

    public void printStyleTwo(){
        table = "";
        for(int row = min; row <= max; row++){
            head = space('\t', 1);
            item = "";
            for(int col = min; col <= row; col++){
                interval = space('\t', 1);
                formula = col + "*" + row + "=" + row * col;
                item += interval + formula;
            }
            tail = space('\n', 1);
            line = head + item + tail;

```

```

        table += line;
    }
    System.out.print(table);
}

private String space(char ch,int repeat){
    String space = "";
    for(int count = 0;count<repeat;count++){
        space += ch;
    }
    return space;
}
}

```

Sample Run :

```

1*1=1    1*2=2    1*3=3    1*4=4    1*5=5    1*6=6    1*7=7    1*8=8    1*9=9
          2*2=4    2*3=6    2*4=8    2*5=10   2*6=12   2*7=14   2*8=16   2*9=18
                    3*3=9    3*4=12   3*5=15   3*6=18   3*7=21   3*8=24   3*9=27
                          4*4=16  4*5=20   4*6=24   4*7=28   4*8=32   4*9=36
                                5*5=25   5*6=30   5*7=35   5*8=40   5*9=45
                                      6*6=36   6*7=42   6*8=48   6*9=54
                                              7*7=49   7*8=56   7*9=63
                                                  8*8=64   8*9=72
                                                          9*9=81

1*1=1
1*2=2    2*2=4
1*3=3    2*3=6    3*3=9
1*4=4    2*4=8    3*4=12   4*4=16
1*5=5    2*5=10   3*5=15   4*5=20   5*5=25
1*6=6    2*6=12   3*6=18   4*6=24   5*6=30   6*6=36
1*7=7    2*7=14   3*7=21   4*7=28   5*7=35   6*7=42   7*7=49
1*8=8    2*8=16   3*8=24   4*8=32   5*8=40   6*8=48   7*8=56   8*8=64
1*9=9    2*9=18   3*9=27   4*9=36   5*9=45   6*9=54   7*9=63   8*9=72   9*9=81

```
