

Part-1

Pattern 1:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=i;j++){  
                System.out.print(" "+j);  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 2:

```
public class Pattern {  
    public static void main(String[] args) {  
        int n=65;  
        for(int i=0;i<=4;i++){  
            for(int j=0;j<=i;j++){  
                System.out.print(" "+(char)(n+j));  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 3:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=i;j++){  
                System.out.print("* ");  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 4:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=i;j++){  
                System.out.print(" "+i);  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 5:

```
public class Pattern {  
    public static void main(String[] args) {  
        int n=65;  
        for(int i=0;i<=4;i++){  
            for(int j=0;j<=i;j++){  
                System.out.print(" "+(char)(n+i));  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 6:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=5-i;j++){  
                System.out.print(" ");  
            }  
            for(int k=1;k<=i;k++){  
                System.out.print("* ");  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 7:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=5-i;j++){  
                System.out.print(" ");  
            }  
            for(int k=1;k<=i;k++){  
                System.out.print(" "+k);  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 8:

```
public class Pattern {  
    public static void main(String[] args) {  
        int n=4;  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=5-i;j++){  
                System.out.print(" ");  
            }  
            for(int k=1;k<=i;k++){  
                System.out.print(" "+(n+k));  
            }  
            n--;  
            System.out.println();  
        }  
    }  
}
```

Pattern 9:

```
public class Pattern {  
    public static void main(String[] args) {  
        int n=65;  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=5-i;j++){  
                System.out.print(" ");  
            }  
        }  
    }  
}
```

```
    }  
    for(int k=0;k<=i-1;k++){  
        System.out.print(" "+(char)(n+k));  
    }  
    System.out.println();  
}  
}
```

Pattern 10:

```
public class Pattern {  
    public static void main(String[] args) {  
        int n=65,m=4;  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=5-i;j++){  
                System.out.print(" ");  
            }  
            for(int k=0;k<=i-1;k++){  
                System.out.print(" "+(char)(n+k+m));  
            }  
            m--;  
            System.out.println();  
        }  
    }  
}
```

Pattern 11:

```
public class Pattern {  
    public static void main(String[] args) {  
  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=5-i;j++){  
                System.out.print(" ");  
            }  
            for(int k=1;k<=i;k++){  
                System.out.print("*");  
            }  
            for(int l=0;l<=i-2;l++){  
                System.out.print("*");  
            }  
        }  
    }  
}
```

```
    }  
    System.out.println();  
    }  
}
```

Pattern 12:

```
public class Pattern {  
    public static void main(String[] args) {  
  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=5-i;j++){  
                System.out.print(" ");  
            }  
            for(int k=1;k<=i;k++){  
                System.out.print(" "+i);  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 13:

```
public class Pattern {  
    public static void main(String[] args) {  
        int n=65;  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=5-i;j++){  
                System.out.print(" ");  
            }  
            for(int k=1;k<=i;k++){  
                System.out.print(" "+(char)(i-1+n));  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 14:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=5-i+1;j++){  
                System.out.print(" "+j);  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 15:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=5;j>=i;j--){  
                System.out.print(" "+j);  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 16:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=5;i>=1;i--){  
            for(int j=5;j>=i;j--){  
                System.out.print(" "+j);  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 17:

```
public class Pattern {  
    public static void main(String[] args) {  
        int n=1;  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=i;j++){  
                System.out.print(" "+n);  
                n++;  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 18:

```
public class Pattern {  
    public static void main(String[] args) {  
        int n=65;  
        for(int i=5;i>=1;i--){  
            for(int j=0;j<=i-1;j++){  
                System.out.print(" "+(char)(n+j));  
            }  
            System.out.println();  
        }  
    }  
}
```

Part-2

Pattern 1:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=i;j++){  
                System.out.print("*");  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 2:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=5-i;j++){  
                System.out.print(" ");  
            }  
            for(int k=1;k<=i;k++){  
                System.out.print("*");  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 3:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=5;j>=i;j--){  
                System.out.print("*");  
            }  
            System.out.println();  
        }  
    }  
}
```



```
}
```

Pattern 4:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=i-1;j++){  
                System.out.print(" ");  
            }  
            for(int k=5;k>=i;k--){  
                System.out.print("*");  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 5:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=5-i;j++){  
                System.out.print(" ");  
            }  
            for(int k=1;k<=i;k++){  
                System.out.print("*");  
            }  
            for(int l=1;l<=i-1;l++){  
                System.out.print("*");  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 6:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){
```

```
    for(int j=1;j<=i-1;j++){
        System.out.print(" ");
    }
    for(int k=5;k>=i;k--){
        System.out.print("*");
    }
    for(int l=5;l>=i+1;l--){
        System.out.print("*");
    }
    System.out.println();
}
}
```

Pattern 7:

```
public class Pattern {
    public static void main(String[] args) {
        for(int i=1;i<=5;i++){
            for(int j=1;j<=5-i;j++){
                System.out.print(" ");
            }
            for(int k=1;k<=i;k++){
                System.out.print("*");
            }
            for(int l=1;l<=i-1;l++){
                System.out.print("*");
            }
            System.out.println();
        }
        for(int i=1;i<=4;i++){
            for(int j=1;j<=i;j++){
                System.out.print(" ");
            }
            for(int k=4;k>=i;k--){
                System.out.print("*");
            }
            for(int l=4;l>=i+1;l--){
                System.out.print("*");
            }
        }
    }
}
```

```
        System.out.println();
    }
}
}
```

Pattern 8:

```
public class Pattern {
    public static void main(String[] args) {
        for(int i=1;i<=5;i++){
            for(int j=1;j<=i;j++){
                System.out.print("*");
            }
            System.out.println();
        }
        for(int i=1;i<=4;i++){
            for(int j=4;j>=i;j--){
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```

Pattern 9:

```
public class Pattern {
    public static void main(String[] args) {
        for(int i=1;i<=5;i++){
            for(int j=1;j<=5-i;j++){
                System.out.print(" ");
            }
            for(int k=1;k<=i;k++){
                System.out.print("*");
            }
            System.out.println();
        }
        for(int i=1;i<=4;i++){
            for(int j=1;j<=i;j++){
                System.out.print(" ");
            }
        }
    }
}
```

```
        for(int k=4;k>=i;k--){
            System.out.print("*");
        }
        System.out.println();
    }
}
```

Pattern 10:

```
public class Pattern {
    public static void main(String[] args) {
        for(int i=1;i<=5;i++){
            for(int j=1;j<=5-i;j++){
                System.out.print(" ");
            }
            for(int k=5;k>=1;k--){
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```

Pattern 11:

```
public class Pattern {
    public static void main(String[] args) {
        for(int i=1;i<=5;i++){
            for(int j=1;j<=i-1;j++){
                System.out.print(" ");
            }
            for(int k=5;k>=1;k--){
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```

Pattern 12:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=5;j>=i;j--){  
                System.out.print("*");  
            }  
            System.out.println();  
        }  
        for(int i=1;i<=4;i++){  
            for(int j=1;j<=i+1;j++){  
                System.out.print("*");  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 13:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=5;i++){  
            for(int j=1;j<=i-1;j++){  
                System.out.print(" ");  
            }  
            for(int k=5;k>=i;k--){  
                System.out.print("*");  
            }  
            System.out.println();  
        }  
        for(int i=1;i<=4;i++){  
            for(int j=1;j<=4-i;j++){  
                System.out.print(" ");  
            }  
            for(int k=1;k<=i+1;k++){  
                System.out.print("*");  
            }  
            System.out.println();  
        }  
    }  
}
```

```

    }
}

```

Pattern 14:

```

public class Pattern {
    public static void main(String[] args) {
        for(int i=1;i<=5;i++){
            for(int j=1;j<=i-1;j++){
                System.out.print(" ");
            }
            for(int k=5;k>=i;k--){
                System.out.print("* ");
            }
            System.out.println();
        }
        for(int i=1;i<=4;i++){
            for(int j=1;j<=4-i;j++){
                System.out.print(" ");
            }
            for(int k=1;k<=i+1;k++){
                System.out.print("* ");
            }
            System.out.println();
        }
    }
}

```

Pattern 15:

```

public class Pattern {
    public static void main(String[] args) {
        for(int i=1;i<=5;i++) {
            for (int j = 1; j <=i; j++) {
                if(j==1 || j==i || i==5){
                    System.out.print("*");
                }
                else{
                    System.out.print(" ");
                }
            }
        }
    }
}

```

```
        System.out.println();
    }
}
}
```

Pattern 16:

```
public class Pattern {
    public static void main(String[] args) {
        for(int i=1;i<=5;i++) {
            for (int j = 1; j <=5-i; j++) {
                System.out.print(" ");
            }
            for(int k=1;k<=i;k++){
                if(k==1||k==i||i==5){
                    System.out.print("*");
                }
                else{
                    System.out.print(" ");
                }
            }
            System.out.println();
        }
    }
}
```

Part-3

Pattern 1:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=9;i++) {  
            for(int j=1;j<=9-i;j++){  
                System.out.print(" ");  
            }  
            for(int k=1;k<=i;k++){  
                System.out.print(" "+i);  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 2:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=9;i++) {  
            for(int j=1;j<=9-i;j++){  
                System.out.print(" ");  
            }  
            for(int k=1;k<=i;k++){  
                System.out.print(" "+k);  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 3:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=9;i++) {  
            for(int j=1;j<=9-i;j++){  
                System.out.print(" ");  
            }  
        }  
    }  
}
```



```
        for(int k=1;k<=i;k++){
            System.out.print("* ");
        }
        System.out.println();
    }
}
```

Pattern 4:

```
public class Pattern {
    public static void main(String[] args) {
        for(int i=1;i<=9;i++) {
            for(int j=1;j<=9-i;j++){
                System.out.print(" ");
            }
            for(int k=1;k<=i;k++){
                System.out.print(" "+k);
            }
            for(int l=i;l>=2;l--) {
                System.out.print(" " + (l-1));
            }
            System.out.println();
        }
    }
}
```

Pattern 5:

```
public class Pattern {
    public static void main(String[] args) {
        for(int i=9;i>=1;i--) {
            for(int j=1;j<=i-1;j++){
                System.out.print(" ");
            }
            for(int k=i;k<=9;k++){
                System.out.print(" "+k);
            }
            for(int l=8;l>=i;l--){
                System.out.print(" "+l);
            }
        }
    }
}
```

```
    }

    System.out.println();
}

}
}
```

Pattern 6:

```
public class Pattern {
    public static void main(String[] args) {
        for(int i=1;i<=9;i++) {
            for(int j=1;j<=i-1;j++){
                System.out.print(" ");
            }
            for(int k=9;k>=i;k--){
                System.out.print("* ");
            }
            System.out.println();
        }
    }
}
```

Pattern 7:

```
public class Pattern {
    public static void main(String[] args) {
        for(int i=9;i>=1;i--) {
            for(int j=1;j<=9-i;j++){
                System.out.print(" ");
            }
            for(int k=1;k<=i;k++){
                System.out.print(" "+i);
            }
            System.out.println();
        }
    }
}
```

Part-4

Pattern 1:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=6;i++) {  
            for(int j=1;j<=i;j++){  
                System.out.print("* ");  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 2:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=6;i>=1;i--) {  
            for(int j=1;j<=i;j++){  
                System.out.print("* ");  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 3:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=6;i++){  
            for(int j=1;j<=6-i;j++){  
                System.out.print(" ");  
            }  
            for(int k=1;k<=i;k++){  
                System.out.print("* ");  
            }  
            System.out.println();  
        }  
    }  
}
```

```
}
```

Pattern 4:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=6;i++){  
            for(int j=1;j<=i-1;j++){  
                System.out.print(" ");  
            }  
            for(int k=6;k>=i;k--){  
                System.out.print("* ");  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 5:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=6;i>=1;i--) {  
            for(int j=1;j<=i;j++){  
                if(i==6||j==1||j==i){  
                    System.out.print("* ");  
                }  
                else{  
                    System.out.print(" ");  
                }  
            }  
            System.out.println();  
        }  
    }  
}
```

Pattern 6:

```
public class Pattern {  
    public static void main(String[] args) {  
        for(int i=1;i<=6;i++) {  
            for(int j=1;j<=6-i;j++){
```

```
        System.out.print(" ");
    }
    for(int k=1;k<=i;k++){
        if(i==6||k==1||k==i){
            System.out.print("* ");
        }
        else{
            System.out.print(" ");
        }
    }
    System.out.println();
}
}
```