

## Day 3 Classwork

1.

```
public class Main
{
    public static void main(String[] args) {
        int n=5;
        for(int i=1;i<=n;i++){
            for(int j=1;j<=i;j++){
                if(i%2==0 && j%2!=0) System.out.print("0"+" ");
                else if(i%2!=0 && j%2==0) System.out.print("0"+" ");
                else System.out.print("1"+" ");
            }
            System.out.println();
        }
    }
}
```

2.

```
public class Hallowpyramid {
    public static void main(String[] args) {
        Scanner s = new Scanner(System.in);
        int row = s.nextInt();
        int left=1,right=(2*row)-1;
        for(int i=1;i<=row;i++){
            for(int j=1;j<=(2*row)-1;j++){
                if(i==1){
                    System.out.print("*");
                }
                else{
                    if(j==left || j==right){
                        System.out.print("*");
                    }
                    else if(j<left || j>right){
                        System.out.print("b");
                    }
                    else{
                        System.out.print("i");
                    }
                }
            }
            left++;
        }
    }
}
```

```

        right--;
        System.out.println();
    }
}

```

3.

```

public class Main
{
    public static void main(String[] args) {
        int n = 5, gap=1;
        for(int i=1;i<=n;i++){
            for(int j=1;j<=n-i;j++){
                System.out.print(" ");
            }
            if(i!=n){
                if(i==1){
                    System.out.print("*");
                }
                else{
                    System.out.print("*");
                    for(int k=1;k<=gap;k++){
                        System.out.print(" ");
                    }
                    gap +=2;
                    System.out.print("*");
                }
            }
            else{
                for(int y=1;y<=((n-1)*2)+1;y++){
                    System.out.print("*");
                }
            }
            System.out.println();
        }
    }
}

```

4.

```

public class Main
{
    public static void main(String[] args) {
        int n=6;
        int sum=0;
    }
}

```

```

        for(int i=1;i<=n-1;i++){
            if(n%i==0)
                sum+=i;
        }
        System.out.println(sum);
    }
}

```

5.

```

import java.util.*;
public class Main
{
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        String s= sc.next();
        int n=s.length();
        int m= n;
        for(int i=0;i<n;i++){
            for(int j=0;j<n;j++){
                if(i==j){
                    System.out.print(s.charAt(i));
                }
                else if(j==n-(i+1)){

                    System.out.print(s.charAt(j));
                }
                else{
                    System.out.print(" ");
                }
            }

            System.out.println();
        }
    }
}

```

6.

```

import java.util.*;
public class Main
{

```

```

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int n = sc.nextInt();
        for(int i=1;i<=n*2-1;i++){
            for(int j=1;j<=n*2-1;j++){
                if(i==n||j==n){
                    System.out.print("*");
                }
                else {
                    System.out.print(" ");
                }
            }
            System.out.println();
        }
    }
}

```

7.

```

public class Main
{
    public static int fact(int n){
        if (n == 0 || n == 1) {
            return 1;
        } else {
            return n * fact(n - 1);
        }
    }

    public static void
    main(String[] args) {
        int n =5;
        double sum=0;
        for(int i=1;i<=n;i++){
            double ans = (double)i/fact(i);
            //System.out.println(ans);
            sum = sum+ans;
        }
        System.out.println(sum);
    }
}

```

8.

```

import java.util.*;

```

```

public class Main
{
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter No");
        int n=sc.nextInt();
        for (int i=0; i<n; i++){
            for (int j=n; j>i+1; j--)
                System.out.print(" ");
            int c = 65;
            for (int j=0; j<=i*2; j++ ) {
                System.out.print((char)c); c++;}
            System.out.println();
        }

        for(int i=n-1;i>0;i--)
        {
            for(int k=n;k>i;k--)
                System.out.print(" ");
            int c = 65;
            for(int j=0;j<i*2-1;j++){
                System.out.print((char)c); c++;

            }
            System.out.println();
        }

    }
}

```

9.

```

import java.util.*;
public class Main
{
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        int n, streak;
        streak=sc.nextInt();
        n=sc.nextInt();
        int num=0;
        for(int i=1;i<=n;i++){
            int cnt=0;
            int k=i;
            for(int j=1; j<=streak+1; j++){
                if(k%j==0){

```

```

        cnt++;
        k++;
    }

    else break;
}
if(cnt==streak){
    num++;
}
}
System.out.println(num);
}
}

```

10.

```

import java.util.*;
public class Main
{
    public static void main(String[] args) {
        int n=5;
        int mid=(n+1)/2;
        for(int i=1;i<=n;i++){
            if(i<=mid){
                for(int j=1;j<=i;j++){
                    System.out.print(i*j+" ");
                }
                System.out.println();
            }
            else{
                mid--;
                for(int j=1;j<=mid;j++){
                    System.out.print(i*j+" ");
                }
                System.out.println();
            }
        }
    }
}

```

11.

```

public class Main
{

```

```

public static void main(String[] args) {
    int row = 5;
    int s=65;
    for(int i=1;i<=5;i++){
        for(int j=1;j<=i;j++){
            System.out.print((char)s);
            System.out.print(" ");

        }
        s++;
        System.out.println();
    }
}

```

12.

public class Main

```

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

```