

Logic Building Session

Day 6: MAR 2023

Session 1

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class Star1{

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```
public static void main(String args[])
```

```
{
```

```
    for(int i=1;i<=4;i++) → Rows
```

```
    {
```

```
        for(int j=1;j<=i;j++) → Columns
```

```
        {
```

```
            System.out.print("* ");
```

```
        }
```

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

```
    }
```

```
}
```

C:\WINDOWS\system32\cmd.exe

D:\Test>javac Star1.java

D:\Test>java Star1

```
*
* *
* * *
* * * *
```

D:\Test>

```
class Star3{
```

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```
public static void main(String args[])
{ //Upper Triangle
```

```
for(int i=1;i<=4;i++)
{
    for(int j=1;j<=i;j++)
    {
        System.out.print("* ");
    }
    System.out.println();
}
```

```
//Lower triangle
```

```
for(int i=1;i<=4;i++)
{
    for(int j=4;j>=i;j--)
    {
        System.out.print("* ");
    }
    System.out.println();
}
```

C:\WINDOWS\system32\cmd.exe

*

D:\Test>javac Star3.java

D:\Test>java Star3

```
*
* *
* * *
* * * *
* * * *
* * *
* *
*
```

D:\Test>

```
class Star7{
```

```
public static void main(String args[])
```

```
{
```

```
for(int i=1;i<=4;i++)
```

```
{
```

```
for(int j=1;j<=i;j++)//spaces
```

```
{
```

```
System.out.print(" ");
```

```
}
```

```
for(int k=4;k>=i;k--)
```

```
{
```

```
System.out.print("* ");
```

```
}
```

```
for(int k1=3;k1>=i;k1--)
```

```
{
```

```
System.out.print("* ");
```

```
}
```

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

```
}
```

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i=1 to 5 i<=5;i++

j=5 to 1; j>=1;j--



```
if(j==0)  
SOP(*)
```

```
if(j%2 !=0)  
SOP(*)  
else  
continue;
```



```
if(j==0)
SOP(*)
```

```
if(j%2 !=0)
SOP(*)
else
continue;
```

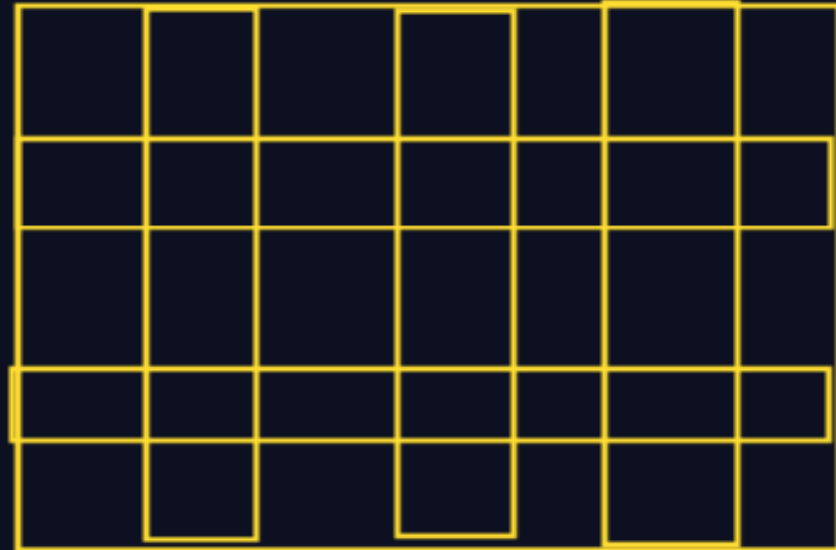


```

int alpha =65;
for(int i=0;i<=6;i++)
{
    for(int j=0;j<=i;j++)//spaces
    {
        System.out.print((char)(alpha+j)+" ");
    }

    System.out.println();
}

```



```
class Leap{
```

```
public static void main(String args[])
```

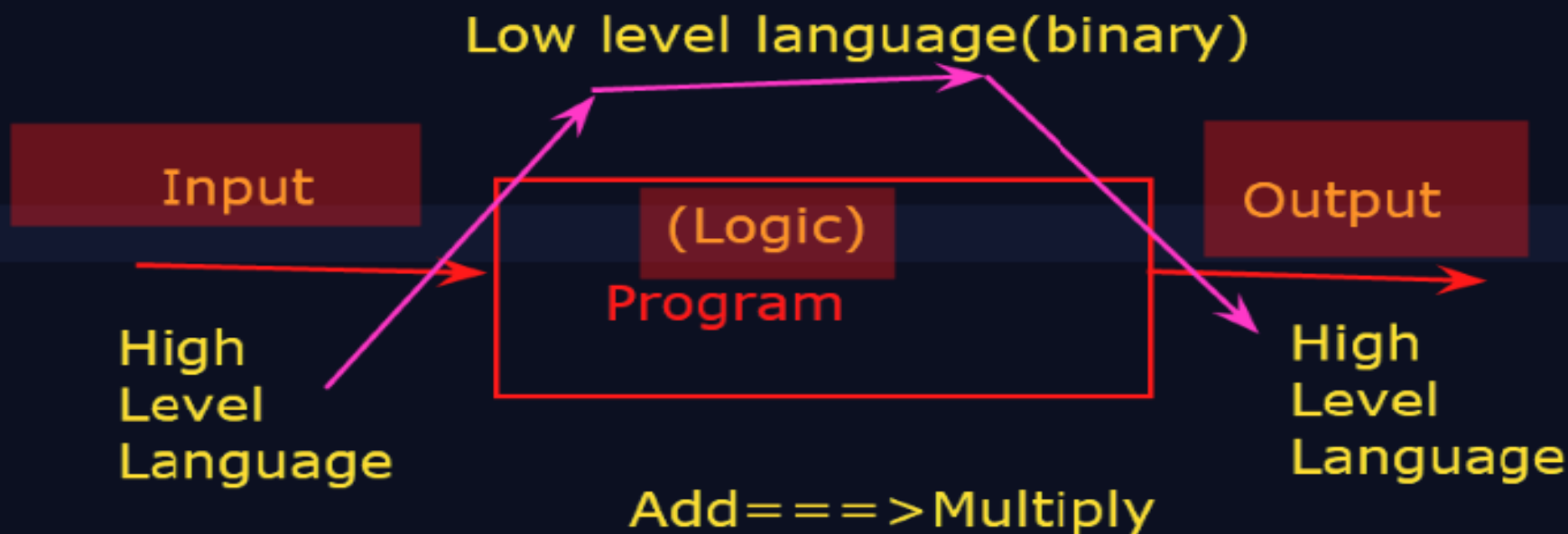
```
{
```

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

```
}
```

```
}
```

```
}
```



Error:

- 1.Compile time error :code we are writing
- 2.Runtime error :logic we are writing

class Leap{

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```
public static void main(String args[])
```

```
{
```

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

```
}
```

```
}
```

4 Multipler ---> Leap

400 -----> Leap

100-----> Not a leap

if (n%400 == 0) || (n%4 == 0 && n%100 != 0) --> LEAP

else ----> Not a LEAP

class Swap{

```
public static void main(String args[])
```

```
{
```

```
    int x, y, temp;
```

```
    x=102;
```

```
    y=45;
```

```
    System.out.println("Before X="+x + " Y="+y);
```

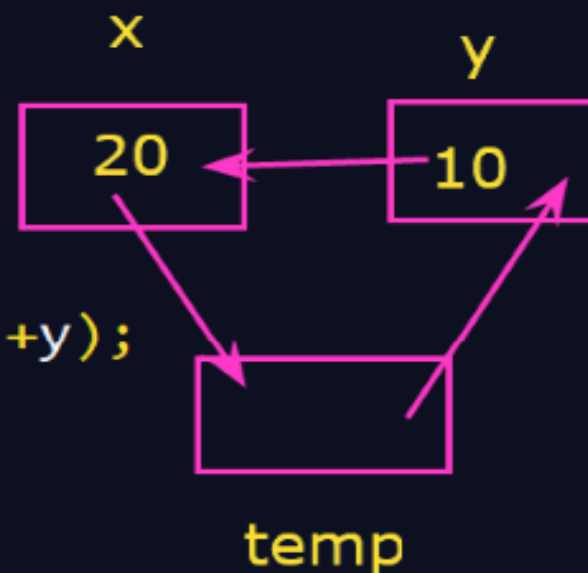
```
    temp =x;
```

```
    x=y;
```

```
    y=temp;
```

```
    System.out.println("After X="+x + " Y="+y);
```

```
}
```



```
int x,y,temp;
```

```
temp =x;
```

```
x=y;
```

```
y=temp;
```

```
class fact{
```

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```
public static void main(String args[])
{
```

```
    int n,fact=1;
```

```
    if(n<0)
```

```
        System.out.println("Negative number.");
```

```
    else
```

```
    {
```

```
        for(int c=1;c<=n;c++)
```

```
        {
```

```
            fact= fact*c;//
```

```
        }
```

```
    }
```

```
}
```

```
}
```

$$3! = 3*2*1$$

$$5! = 5*4*3*2*1;$$

$$1*2*3*4*5$$

```
for(c=1;c<=n;c++)
    fact = fact*c;
```

Sum of digits

```
int sum=0;
while(n>0) //1234 11
{
    r=n%10; //4 3 2 1
    sum=sum+r; //4+3+2+1
    n=n/10; //123 12 1 0
}
}
```

$n=1234$

$n=n/10; 123=Q$

$n=n\%10; 4=R$

$n=n/10; 12=Q$

$n=n\%10; 3=R$

$n=n/10; 1=Q$

$n=n\%10; 2=R$

$n=n/10; 0=Q$

$n=n\%10; 1=R$

}

LCM= 15,25

15=3*5
25=5*5

LCM= 5*5*3=75

```
lcm=(n1>n2)?n1:n2
```

```
while(true)
```

```
{
```

```
if(lcm%n1 == 0 && lcm%n2 == 0){
```

```
SOP(n1,n2,lcm);
```

```
break;
```

```
}
```

```
lcm++
```

```
}
```