

29th Jan'23 Loops and Pattern Programs Assignment-7

1. Write a program(WAP) to print Alphabets A, B, C, D, E, F, G, H, using pattern programming logic

Ans:

```
package Fundamentals_Of_Java;
```

```
public class Patterns_Assignment_Alphabets {
    public static void main(String[] args) {
        int n = 7;

        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                if(i==0 && j>0 && j<(n-1)/2 || i==(n-1)/2 && j<=(n-1)/2 || j==0 &&
i>0 || j==(n-1)/2 && i>0)
                {
                    System.out.print("* ");
                } else
                {
                    System.out.print(" ");
                }
            }

            for (int j = 0; j < n; j++) {
                if(j == 0 || i == 0 && j < (n-1)/2 || i == (n-1)/2 && j < (n-1)/2 || i ==
n-1 && j<(n-1)/2 || j == (n-1)/2 && i > 0 && i < (n-1)/2 || j == (n-1)/2 && i >
(n-1)/2 && i < n-1)
                {
                    System.out.print("* ");
                }
                else
                {
                    System.out.print(" ");
                }
            }

            for (int j = 0; j < n; j++) {
```

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```
        if(j==0 && i>0 && i<n-1 || i==0 && j>0 && j<=(n-1)/2 || i==n-1 &&
j>0 && j<=(n-1)/2)
        {
            System.out.print("* ");
        } else
        {
            System.out.print(" ");
        }
    }
```

```
    for (int j = 0; j < n; j++) {
        if(j==0 || i==0 && j<(n-1)/2 || i==n-1 && j<(n-1)/2 || j==(n-1)/2 &&
i>0 && i<n-1)
        {
            System.out.print("* ");
        } else
        {
            System.out.print(" ");
        }
    }
```

```
    for (int j = 0; j < n; j++) {
        if(j == 0 || i == 0 && j <= (n-1)/2 || i == (n-1)/2 && j <= (n-1)/2 || i
== n-1 && j <= (n-1)/2)
        {
            System.out.print("* ");
        } else
        {
            System.out.print(" ");
        }
    }
```

```
    for (int j = 0; j < n; j++) {
        if(j == 0 || i == 0 && j <= (n-1)/2 || i == (n-1)/2 && j <= (n-1)/2)
        {
```

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```
        System.out.print("* ");
    } else
    {
        System.out.print(" ");
    }
}

for (int j = 0; j < n; j++) {
    if(j == 0 && i > 0 && i < n-1 || i == 0 && j > 0 && j <= (n-1)/2 || i ==
n-1 && j>0 && j<=(n-1)/2 || i == (n-1)/2 && j <= (n-1)/2 || i>= (n-1)/2 && j ==
(n-1)/2)
    {
        System.out.print("* ");
    } else
    {
        System.out.print(" ");
    }
}

for (int j = 0; j < n; j++) {
    if(j == 0 || j == n-1 || i == (n-1)/2)
    {
        System.out.print("* ");
    } else
    {
        System.out.print(" ");
    }
}
System.out.println();
}
}
}
```

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2. Write a program to print triangle using star pattern programming logic

Ans:

```
package Fundamentals_Of_Java;

public class Triangle_Using_Star_Pattern {
    public static void main(String[] args) {
        int n = 11;

        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                if(i+j >= (n-1)/2 && j-i <= (n-1)/2 && i <=(n-1)/2)
                {
                    System.out.print("* ");
                }
                else
                {
                    System.out.print(" ");
                }
            }
            System.out.println();
        }
    }
}
```

3. WAP to print

Ans:

```
package Fundamentals_Of_Java;

public class Print_hollow_house_Pattern {
    public static void main(String[] args) {
        int n = 11;

        for (int i = 0; i < n; i++) {
```

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```
for (int j = 0; j < n; j++) {
    if(i==0 || j==0 || i==n-1 || j==n-1 || i+j <= (n-1)/2 || j-i >=(n-1)/2)
    {
        System.out.print("* ");
    }
    else
    {
        System.out.print(" ");
    }
}
System.out.println();
}
}
```

4. Write a program to print PW SKILLS using pattern programming logic

Ans:

```
package Fundamentals_Of_Java;
```

```
public class PW_SKILLS_Patterns {
    public static void main(String[] args) {
        int n = 7;

        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                if(j==0 || i==0 && j<n-1 || j==n-1 && i>0 && i<(n-1)/2 || i == (n-1)/2
&& j <n-1)
                {
                    System.out.print("* ");
                }
                else
                {
                    System.out.print(" ");
                }
            }
        }
    }
}
```

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```
    }
}
System.out.print(" ");
for (int j = 0; j < n; j++) {
    if(j==0 || j==n-1 || i==j && i>(n-1)/2 || i+j == n-1 && j<=(n-1)/2)
    {
        System.out.print("* ");
    }
    else
    {
        System.out.print(" ");
    }
}
System.out.print(" ");
System.out.print(" ");
for (int j = 0; j < n; j++) {
    if(i==0 && j>0 || i==n-1 && j<n-1 || j==0 && i>0 && i<(n-1)/2 ||
i==(n-1)/2 && j>0 && j<n-1 || j == n-1 && i > (n-1)/2 && i<n-1)
    {
        System.out.print("* ");
    }
    else
    {
        System.out.print(" ");
    }
}
System.out.print(" ");
for (int j = 0; j < n; j++) {
    if(j==0 || i-j == (n-1)/2 || i+j==(n-1)/2)
    {
        System.out.print("* ");
    }
    else
    {
        System.out.print(" ");
    }
}
```

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```
    }  
}  
System.out.print(" ");  
for (int j = 0; j < n; j++) {  
    if(i==0 || i == n-1 || j == (n-1)/2)  
    {  
        System.out.print("* ");  
    }  
    else  
    {  
        System.out.print(" ");  
    }  
}  
System.out.print(" ");  
for (int j = 0; j < n; j++) {  
    if(j==0||i==n-1)  
    {  
        System.out.print("* ");  
    }  
    else  
    {  
        System.out.print(" ");  
    }  
}  
System.out.print(" ");  
for (int j = 0; j < n; j++) {  
    if(j==0||i==n-1)  
    {  
        System.out.print("* ");  
    }  
    else  
    {  
        System.out.print(" ");  
    }  
}  
}
```

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```
System.out.print(" ");
for (int j = 0; j < n; j++) {
    if(i==0 && j>0 || i==n-1 && j<n-1 || j==0 && i>0 && i<(n-1)/2 ||
i==(n-1)/2 && j>0 && j<n-1 || j == n-1 && i > (n-1)/2 && i<n-1)
    {
        System.out.print("* ");
    }
    else
    {
        System.out.print(" ");
    }
}

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

5. Write a program to print your Full Name using pattern programming logic

Ans:

```
package Fundamentals_Of_Java;
```

```
public class MyName_Pattern {
    public static void main(String[] args) {
        int n = 7;

        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                if(j==0 && i>0 || j==n-1 && i>0 || i==0 && j>0 && j<n-1 || i ==
(n-1)/2)
                {
                    System.out.print("* ");
                }
            }
        }
    }
}
```


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```
    else
    {
        System.out.print(" ");
    }
}
```

```
System.out.print(" ");
for (int j = 0; j < n; j++) {
    if(j==0 || i==0 && j<n-1 || i == (n-1)/2 && j<n-1 || i==n-1 && j<n-1 ||
j==n-1 && i>0 && i<(n-1)/2 || j==n-1 && i>(n-1)/2 && i<n-1)
    {
        System.out.print("* ");
    }
    else
    {
        System.out.print(" ");
    }
}
```

```
System.out.print(" ");
for (int j = 0; j < n; j++) {
    if(j==0 || i==0 && j<n-1 || i==n-1 && j<n-1 || j==n-1 && i>0 &&
i<n-1)
    {
        System.out.print("* ");
    }
    else
    {
        System.out.print(" ");
    }
}
```

```
System.out.print(" ");
for (int j = 0; j < n; j++) {
    if(j==0 && i<n-1 || j==n-1 && i<n-1 || i==n-1 && j>0 && j<n-1)
```

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```
{
    System.out.print("* ");
}
else
{
    System.out.print(" ");
}
}
```

```
System.out.print(" ");
for (int j = 0; j < n; j++) {
    if(j==0 || i==n-1)
    {
        System.out.print("* ");
    }
    else
    {
        System.out.print(" ");
    }
}
```

```
System.out.print(" ");
System.out.print(" ");
for (int j = 0; j < n; j++) {
    if(j==0 && i>0 || j==n-1 && i>0 || i==0 && j>0 && j<n-1 || i ==
(n-1)/2)
    {
        System.out.print("* ");
    }
    else
    {
        System.out.print(" ");
    }
}
```

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```
System.out.print(" ");
for (int j = 0; j < n; j++) {
    if(j==0 && i>0 || j==n-1 && i>0 || i==0 && j>0 && j<n-1 || i ==
(n-1)/2)
    {
        System.out.print("* ");
    }
    else
    {
        System.out.print(" ");
    }
}
```

```
System.out.print(" ");
for (int j = 0; j < n; j++) {
    if(j==0 || j==n-1 || i==j && i<(n-1)/2 || i+j==n-1 && i<=(n-1)/2)
    {
        System.out.print("* ");
    }
    else
    {
        System.out.print(" ");
    }
}
```

```
System.out.print(" ");
for (int j = 0; j < n; j++) {
    if(i==0 || i==n-1 || j==(n-1)/2)
    {
        System.out.print("* ");
    }
    else
    {
        System.out.print(" ");
    }
}
```

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```
}

System.out.print(" ");
for (int j = 0; j < n; j++) {
    if(j==0 || i==0 && j<n-1 || i == (n-1)/2 && j<n-1 || j==n-1 && i>0 &&
i<(n-1)/2 || i==j && i>(n-1)/2)
    {
        System.out.print("* ");
    }
    else
    {
        System.out.print(" ");
    }
}
System.out.println();
}
}
```