Pattern programming

Day-9

Assignment Questions
1).WAP to print Alphabets A,B,C,D,E,F,G,H using pattern programming logic.

```java
import java.util.Scanner;
public class patternalphabet
{
public static void main(String[] args) {
    Scanner scan= new Scanner(System.in);

int n=11;
System.out.println("Enter the char input in capital which you want to print from A to H");
char a= scan.next().charAt(0);

for (int i=0;i<n;i++)
{
    for (int j=0;j<n;j++)
    {
        switch (a){
            case 'A':

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

```java
            break;

            case 'B':


        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 && i!=(n-1))
        {
            System.out.print("*");
        }
        else
        {
            System.out.print(" ");
        }
        break;

        case 'C':


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


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

        break;

        case 'E':
```

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

        case 'F':


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

        case 'G':

        if (i==0 && (j>0 && j<(n-1)/2) || j==0 && i >0 && i< (n-1)|| i==n-1 && j>0 &&
j<(n-1)/2 || j==(n-1)/2 && i>=(n-1)/2 || j== (n-1)/2 + (n-1)/4 && i >=(n-1)/2 || i==
(n-1)/2 && j >= (n-1)/2 && j<= ((n-1)/2+(n-1)/4))
                {
                    System.out.print("*");
                }
                else
                {
                    System.out.print(" ");
                }
                break;



        case 'H':

        if (j==0 || i==(n-1)/2|| j==n-1 )
        {
```

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


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


}
}
```

2).WAP to print triangle using star pattern programming logic.

```java
public class pattern3 {
    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==(n-1)/2|| i+j==(n-1)/2 || j-i==(n-1)/2||i<=(n-1)/2
&&i+j>=(n-1)/2 && j-i<=(n-1)/2)
                {
                    System.out.print("*");
                }
                else{
                    System.out.print(" ");
                }
            }
            System.out.println("");
```

```
        }
    }
}
```

3).WAP to print

```java
public class pattern4 {
    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==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("");
        }

    }
}
o/p
***********
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*          *
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*          *
*          *
***********
```

4).WAP to print PW skills using pattern program logic.

```java
public class pattern4 {
    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==0&& j<(n-1)/2 || j==0||i==(n-1)/2&&j<(n-1)/2|| j==(n-1)/2 &&
i>0&&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==(n-1)&& i>=(n-1)/2 && j<=(n-1)/2 ||i-j==0&&
i>=(n-1)/2 && j>=(n-1)/2 )
                {
                    System.out.print("*");
                }
                else{
                    System.out.print(" ");
                }
            }
            System.out.print("      ");



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

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



    for (int j=0;j<n;j++)
    {
        if (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("*");
        }
```

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




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

```
        }
}
                    if(j==0||j==n-1||i==j&&i<=(n-1)/2  ||  i+j==(n-1) && j>=(n-1)/2)
```

o/p

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

5). Write a program to print your full name using pattern program logic?

```
public class pattern5 {

    public static void main(String[] args) {
        int n=11;
        for (int i=0;i<n;i++)
        {
            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)
                {
```

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

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


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


    System.out.print(" ");

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

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

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

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

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

        for (int j=0;j<n;j++)
        {
            if (i==0 && (j>0 && j<(n-1)/2) || j==0 && i >0 && i< (n-1)|| i==n-1 && j>0
&& j<(n-1)/2 || j==(n-1)/2 && i>=(n-1)/2 ||
            j== (n-1)/2 + (n-1)/4 && i >=(n-1)/2 || i== (n-1)/2 && j >= (n-1)/2 && j<=
((n-1)/2+(n-1)/4) )
            {
                System.out.print("*");
            }
            else
            {
                System.out.print(" ");
            }
        }
        System.out.print(" ");

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

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

```java
            }

            System.out.println("");

        }
    System.out.println("");
    for (int i=0;i<n;i++)
    {

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

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



        }



}
```

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

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**      ** *    *      *
*        * *    *      ***********PS C:\java>
```