***Pattern Questions***

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class First

{

public static void main(String args[])

{

for(int i=1;i<=5;i++)

{

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

}

}

}

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class First

{

public static void main(String args[])

{

for(int i=0;i<=4;i++)

{

for(int j=0;j<=4;j++)

{

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

}

System.out.println(" ");

}

}

}

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class First

{

public static void main(String args[])

{

for(int i=0;i<=4;i++)

{

for(int j=0;j<=4;j++)

{

if(j==0 || j==4)

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

else

System.out.print(" ");

}

System.out.println(" ");

}

}

}

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class First

{

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();

}

}

}

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class First

{

public static void main(String args[])

{

for(int i=1;i<=5;i++)

{

for(int j=1;j<=5;j++)

{

if(i==1||i==5||j==5||j==1)

{ System.out.print("\* "); }

else

{

System.out.print(" ");

}

}

System.out.println();

}

}

}

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class First

{

public static void main(String args[])

{ int n=5;

for(int i=1;i<=n;i++)

{

for(int j=1;j<=n;j++)

{

if(i==n/2+1 || j==n/2+1)

{ System.out.print("\* "); }

else

{

System.out.print(" ");

}

}

System.out.println();

}

}

}

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class First

{

public static void main(String args[])

{ int n=5;

for(int i=1;i<=n;i++)

{

for(int j=1;j<=n;j++)

{

if(i==j || i+j==n+1)

{ System.out.print("\* "); }

else

{

System.out.print(" ");

}

}

System.out.println();

}

}

}

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**public** **class** Pattern1

{

**public** **static** **void** pyramidPattern(**int** n)

    {

**for** (**int** i=0; i<n; i++) //outer loop for number of rows(n) { for (int j=n-i; j>1; j--) //inner loop for spaces

            {

                System.out.print(" "); //print space

            }

**for** (**int** j=0; j<=i; j++ ) //inner loop for number of columns

            {

                System.out.print("\* "); //print star

            }

            System.out.println(); //ending line after each row

        }

    }

**public** **static** **void** main(String args[]) //driver function

    {

**int** n = 5;

        pyramidPattern(n);

    }

}

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**import** java.util.Scanner;

**public** **class** ReversedPyramid

{

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

{

    Scanner sc = **new** Scanner(System.in);

    System.out.println("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i= 0; i<= rows-1 ; i++)

    {

**for** (**int** j=0; j<=i; j++)

        {

            System.out.print(" ");

        }

**for** (**int** k=0; k<=rows-1-i; k++)

        {

            System.out.print("\*" + " ");

        }

        System.out.println();

    }

    sc.close();

}

}

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**import** java.util.Scanner;

**public** **class** DiamondPattern

{

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

{

**int** n, i, j, space = 1;

System.out.print("Enter the number of rows: ");

Scanner s = **new** Scanner(System.in);

n = s.nextInt();

space = n - 1;

**for** (j = 1; j<= n; j++)

{

**for** (i = 1; i<= space; i++)

{

System.out.print(" ");

}

space--;

**for** (i = 1; i <= 2 \* j - 1; i++)

{

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

}

System.out.println("");

}

space = 1;

**for** (j = 1; j<= n - 1; j++)

{

**for** (i = 1; i<= space; i++)

{

System.out.print(" ");

}

space++;

**for** (i = 1; i<= 2 \* (n - j) - 1; i++)

{

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

}

System.out.println("");

}

}

}

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**public** **class** LeftTrianglePattern

{

**public** **static** **void** printStars(**int** n)

    {

**int** i, j;

**for**(i=0; i<n; i++) //outer loop for number of rows(n) { for(j=2\*(n-i); j>=0; j--) // inner loop for spaces

            {

                System.out.print(" "); // printing space

            }

**for**(j=0; j<=i; j++) //  inner loop for columns

            {

                System.out.print("\* "); // print star

            }

            System.out.println(); // ending line after each row

        }

    }

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

    {

**int** n = 5;

        printStars(n);

    }

}

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**import** java.util.Scanner;

**public** **class** MirroredRightTrianglePattern

{

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

    {

        Scanner sc = **new** Scanner(System.in);

        System.out.println("Enter number of rows: "); // takes input from user

**int** rows = sc.nextInt();

**for** (**int** i= 0; i<= rows; i++)

        {

**for** (**int** j=1; j<=rows-i; j++)

            {

                System.out.print(" ");

            }

**for** (**int** k=0;k<=i;k++)

            {

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

            }

                System.out.println("");

        }

        sc.close();

    }

}

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**import** java.util.Scanner;

**public** **class** RightPascalTrianlePattern

{

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

    {

        Scanner sc = **new** Scanner(System.in);

        System.out.println("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i= 0; i<= rows-1 ; i++)

        {

**for** (**int** j=0; j<=i; j++) { System.out.print("\*"+ " "); } System.out.println(""); } **for** (**int** i=rows-1; i>=0; i--)

        {

**for**(**int** j=0; j <= i-1;j++)

            {

                System.out.print("\*"+ " ");

            }

            System.out.println("");

        }

        sc.close();

    }

}

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**import** java.util.Scanner;

**public** **class** LeftPascalTrianglePattern

{

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

    {

        Scanner sc = **new** Scanner(System.in);

        System.out.println("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i= 1; i<= rows ; i++)

        {

**for** (**int** j=i; j <rows ;j++)

        {

                System.out.print(" ");

            }

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

        {

**for**(**int** j=i; j<=rows;j++)

            {

                System.out.print(" ");

            }

**for**(**int** k=1; k<i ;k++)

            {

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

            }

            System.out.println("");

        }

        sc.close();

    }

}

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**import** java.util.Scanner;

**public** **class** SandglassPattern

{

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

    {

        Scanner sc = **new** Scanner(System.in);

        System.out.println("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i= 0; i<= rows-1 ; i++)

        {

**for** (**int** j=0; j <i; j++)

            {

                System.out.print(" ");

            }

**for** (**int** k=i; k<=rows-1; k++) { System.out.print("\*" + " "); } System.out.println(""); } **for** (**int** i= rows-1; i>= 0; i--)

        {

**for** (**int** j=0; j< i ;j++)

            {

                System.out.print(" ");

            }

**for** (**int** k=i; k<=rows-1; k++)

            {

                System.out.print("\*" + " ");

            }

            System.out.println("");

        }

        sc.close();

    }

}

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**import** java.util.Scanner;

**public** **class** TriangleStarPattern

{

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

        {

            Scanner sc = **new** Scanner(System.in);

            System.out.println("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i=1; i<= rows ; i++)

            {

**for** (**int** j = i; j < rows ; j++) {

                    System.out.print(" ");

                }

**for** (**int** k = 1; k <= (2\*i -1) ;k++) {

**if**( k==1 || i == rows || k==(2\*i-1)) {

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

                    }

**else** {

                        System.out.print(" ");

                    }

                }

                System.out.println("");

            }

            sc.close();

        }

    }

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**import** java.util.Scanner;

**public** **class** DiamondStarPattern

{

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

{

    Scanner sc = **new** Scanner(System.in);

    System.out.println("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i=1; i<= rows ; i++) { **for** (**int** j = rows; j > i ; j--) {

            System.out.print(" ");

        }

        System.out.print("\*");

**for** (**int** k = 1; k < 2\*(i -1) ;k++) { System.out.print(" "); } **if**( i==1) { System.out.println(""); } **else** { System.out.println("\*"); } } **for** (**int** i=rows-1; i>= 1 ; i--)

        {

**for** (**int** j = rows; j > i ; j--) {

            System.out.print(" ");

        }

        System.out.print("\*");

**for** (**int** k = 1; k < 2\*(i -1) ;k++) {

            System.out.print(" ");

        }

**if**( i==1)

            System.out.println("");

**else**

            System.out.println("\*");

    }

    sc.close();

}

}

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1 1

1 2 1

1 3 3 1

1 4 6 4 1

**import** java.util.Scanner;

**public** **class** NumericPascalTrianglePattern

{

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

**int** n = 5;

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

**int** number = 1;

            System.out.printf("%" + (n - i) \* 2 + "s", "");

**for** (**int** j = 0; j <= i; j++) {

                System.out.printf("%4d", number);

                number = number \* (i - j) / (j + 1);

            }

            System.out.println();

        }

    }

}

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32123

4321234

32123

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**import** java.util.Scanner;

**public** **class** NumericDiamondPattern

{

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

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

        {

**int** n = 4;

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

            {

                System.out.print(k);

            }

**for** (**int** l = 2; l <= i; l++) { System.out.print(l); } System.out.println(); } **for** (**int** i = 3; i >= 1; i--)

        {

**int** n = 3;

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

            {

                System.out.print(k);

            }

**for** (**int** l = 2; l <= i; l++)

            {

                System.out.print(l);

            }

            System.out.println();

        }

    }

}

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**import** java.util.Scanner;

**public** **class** BinaryNumberPattern

{

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

    {

        Scanner sc = **new** Scanner(System.in);

        System.out.println("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i = 1; i <= rows; i++)

        {

**int** num;

**if**(i%2 == 0)

            {

                num = 0;

**for** (**int** j = 1; j <= rows; j++)

                {

                    System.out.print(num);

                    num = (num == 0)? 1 : 0;

                }

            }

**else**

            {

                num = 1;

**for** (**int** j = 1; j <= rows; j++)

                {

                    System.out.print(num);

                    num = (num == 0)? 1 : 0;

                }

            }

            System.out.println();

        }

        sc.close();

    }

}

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**import** java.util.Scanner;

**public** **class** ZeroOnePattern

{

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

    {

        Scanner sc = **new** Scanner(System.in);

        System.out.println("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i = 1; i <= rows; i++)

        {

**for** (**int** j = 1; j <= i; j++)

            {

**if**(j%2 == 0)

                {

                    System.out.print(0);

                }

**else**

                {

                    System.out.print(1);

                }

            }

            System.out.println();

        }

        sc.close();

    }

}

A

A B

A B C

A B C D

A B C D E

A B C D E F

**import** java.util.Scanner;

**public** **class** RightAlphabeticTrianglePattern

{

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

    {

**int** alphabet = 65;

**for** (**int** i = 0; i <= 5; i++)

        {

**for** (**int** j = 0; j <= i; j++)

            {

                System.out.print((**char**) (alphabet + j) + " ");

            }

            System.out.println();

        }

    }

}

A B C D E F

A B C D E

A B C D

A B C

A B

A

A

A B

A B C

A B C D

A B C D E

A B C D E F

**import** java.util.Scanner;

**public** **class** KShapeCharacterPattern

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

{

**for** (**int** i = 5; i >= 0; i--)

{

**int** alphabet = 65;

**for** (**int** j = 0; j <= i; j++)

   {

       System.out.print((**char**) (alphabet + j) + " ");

   }

   System.out.println();

}

**for** (**int** i = 0; i<= 5; i++)

{

**int** alphabet = 65;

**for** (**int** j = 0; j <= i; j++)

   {

       System.out.print((**char**) (alphabet + j) + " ");

   }

   System.out.println();

}

}

}

A

B B

C C

D D

E E

F F

E E

D D

C C

B B

A

**import** java.util.Scanner;

**public** **class** DiamondPatternCharacter

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

**char**[] letter = { 'A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I', 'J',

            'K', 'L', 'M', 'N', 'O', 'P', 'Q', 'R', 'S', 'T', 'U', 'V',

            'W', 'X', 'Y', 'Z' };

**int** letter\_number = 0;

    String[] diamond = **new** String[26]; // array of strings

    System.out.print("Enter a Character between A to Z : ");

    Scanner reader = **new** Scanner(System.in);

**try** {

**char** user\_letter = reader.next("[A-Z]").charAt(0);

        // search for letter number in the array letter

**for** (**int** i = 0; i < letter.length; i++) {

**if** (letter[i] == user\_letter) {

                letter\_number = i;

**break**;

            }

        }

        // construct diamond

**for** (**int** i = 0; i <= letter\_number; i++) {

            diamond[i] = "";

            // add initial spaces

**for** (**int** j = 0; j < letter\_number - i; j++) {

                diamond[i] += " ";

            }

            // add letter

            diamond[i] += letter[i];

            // add space between letters

**if** (letter[i] != 'A') {

**for** (**int** j = 0; j < 2 \* i - 1; j++) { diamond[i] += " "; } // add letter diamond[i] += letter[i]; } // Draw the first part of the diamond System.out.println(diamond[i]); } for (int i = letter\_number - 1; i >= 0; i--)

                {

            // Draw the second part of the diamond

            // Writing the diamondArray in reverse order

            System.out.println(diamond[i]);

        }

    } **catch** (Exception e) {

        e.printStackTrace();

    } **finally** {

        reader.close();

    }

}

}