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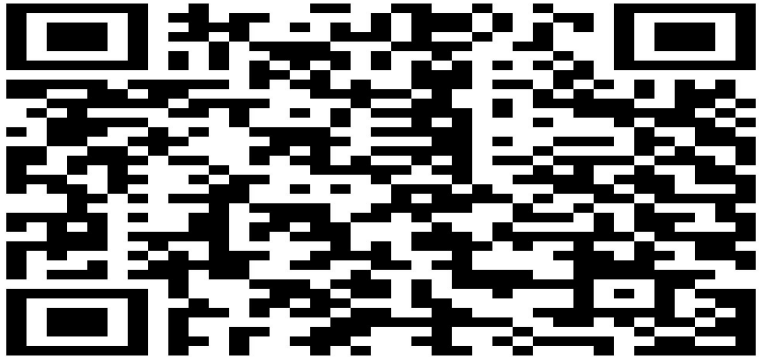
TEST TIME ON JUMPING STATEMENTS

URL-https://docs.google.com/forms/d/1X4A6Nh8C14-aODPEXm1AuvRWzPDeBQn6w4up1nDiCBk/edit

QR code-



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Pattern programming

What you'll Learn

- Brief intro to pattern programming
- Benefits
- Approach
- Different patterns and programs

Pattern programming

- On the basis of different designs/patterns using characters/numbers or combination of both
- Benefits
    - Enhances the **logical thinking** capabilities
- Prerequisites
    - Detailed understanding of control statements

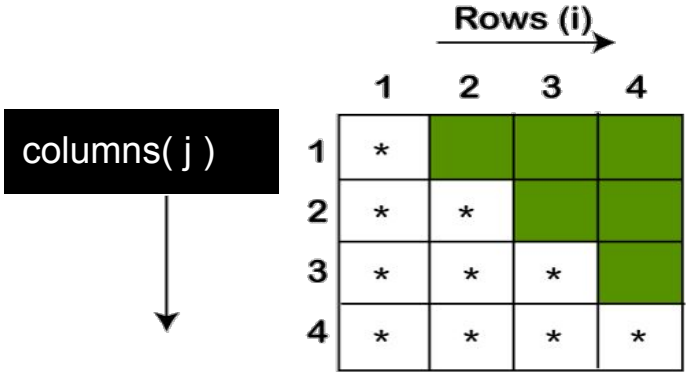
Categories

- Star patterns
- Number patterns
- Character patterns
- Combination of numbers and characters

- Examples of the designs
  - Right triangle, left triangle, pyramid, inverted triangle, etc..

Approach

- Draw the given pattern in the blocks to have a clear representation
- Get the logic with respect to the pattern
- Imply in the code using the control statements



Code snippets

```
import java.util.Scanner;
public class Type1Program1 {
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("enter the row value");
        int row = sc.nextInt();
        System.out.println("Triangled stars");
        for(int i = 1; i<=row; i++)
        {
            for(int j = 1; j<=i; j++)
                System.out.print("*");
        System.out.println();
        } }
```

Code snippets

```
public class Type1Program2 {
                public static void main(String[] args)
                {
                     Scanner sc = new Scanner(System.in);
                     System.out.println("enter the row value");
                     int num = sc.nextInt();
                     for(int i = 1; i<=num; i++)
                     {
                          for(int j= 1; j<=i;j++)
                               System.out.print(j);
                              System.out.println();
                     }
                } }
```

Code snippets

```
public class Type1Program3 {
    public static void main(String[] args){
        Scanner sc = new Scanner (System.in);
        System.out.println("enter the row value: ");
        int n=sc.nextInt();
        for(int i=1;i<=n;i++)
        {
        char ch = 'A'; // extra variable initialization inside the
outer for loop to retain the initial value in every row.
            for(int j=1;j<=i;j++)
                    System.out.print(ch++);//A
                     System.out.println();
        }
        } }
```

Code snippets

```
public class Type1Program4 {
    public static void main(String[] args){
        Scanner sc = new Scanner (System.in);
        System.out.println("enter the row value: ");
        int n=sc.nextInt();
        char ch='A';// extra variable initialization outside the
outer for      loop to just print 'A' only once in the first row
        for(int i=1;i<=n;i++)
        {
            for(int j=1;j<=i;j++)
                System.out.print(ch++);
                System.out.println();
        }
    } }
```

Code snippets

```
public class Type2Program1 {
     public static void main(String[] args) {
          Scanner sc = new Scanner(System.in);
          System.out.println("enter the row value");
          int num = sc.nextInt();
          int space = num-1;
          System.out.println("Triangled stars in the right side");
          for(int i = 1; i<=num; i++) {
               for(int k = 1; k<=space; k++)
                    System.out.print(" ");
               for(int j = 1; j<=i; j++) {
                    System.out.print("*");
                    System.out.println();
                    space--; }
          }}}
```

Code snippets

```
public class Type2Program2 {
public static void main(String[] args){
Scanner sc = new Scanner(System.in);
System.out.println("enter the row
value");
        int n=sc.nextInt();
        int ch1=1;
        char ch2 = 'A';
        int space = n-1;
        for(int i=1;i<=n;i++){
            for(int k=1;k<=space;k++)
               System.out.print(" ");
```

```
for(int j=1;j<=i;j++){
if( ((i==1 )|| (i==n)) && ((j==1) ||
(j==n)) )
    System.out.print("*");
else if((j==1) || (j==i))
System.out.print(ch2++);
else
System.out.print(ch1++);
             }//end of j loop
    space--;
    System.out.println();
        }}}}
```

Code snippets

```
public class Type3Program1 {
    public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
        System.out.println("enter the row value");
        int n=sc.nextInt();
        int st=1;
        for(int i=1;i<=n;i++)
        {
            for(int j=1;j<=st;j++)
                System.out.print("*");
            System.out.println();
            if(i<=n/2)
                st++;
            else
                st--;} } }
```

Code snippets

```
public class Type4Program1 {
    public static void main(String[] args) {
        int term = 6;
        for(int i = 1;i <= term;i++) {
              for(int j = term;j >= i;j--) {
                System.out.print("*");
              }
              System.out.println();
         }
    }
}
```

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codemithra@ethnus.com

+91 7815 095 095

+91 9019 921 340