Recursion is a process in which a function call itself again and again Recursion avoid Loop in a program

Recursion

Recursion

Void Sum (enda)

Void Show()

Show();

Show();

```
Creale a Recursive function to display.
Libonacci Leries.
 um post jana. util . *;
 class Cale
    static int fib (unta)
 ( ) ( (ax=1)
 setwen a;
   else
   (=) 1 octures fib (a-) + fib (a-2);
          Direct Vacuusian
class J
    PS- V M (Strung KrJ) int
       Scanner ob = new Scanner (distante);
       SOPZ ("Enter terms");
       und N= ob nextInt();
    for (unt i = 0; ix N; i++)
          SOPL (Cale. lib (i);
                     (050) 4.
```

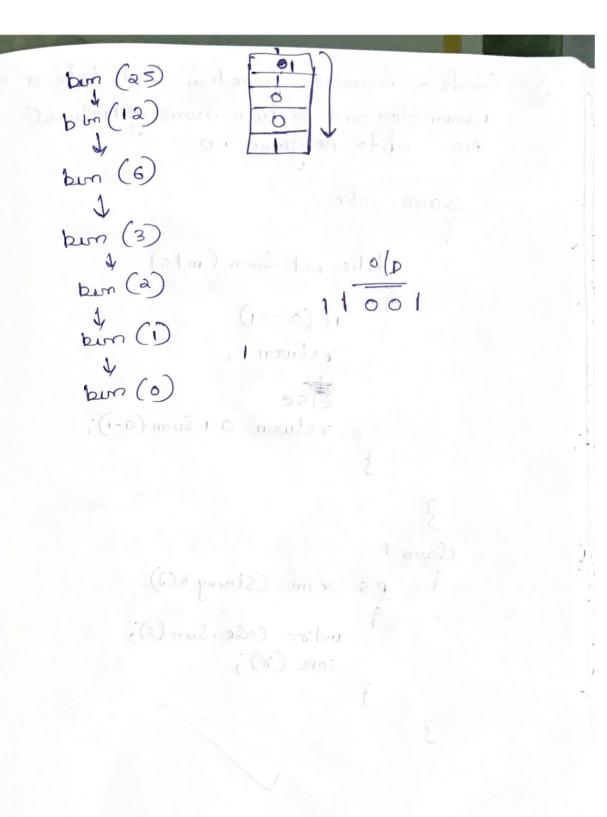
```
Entertermos
                   output
                . Ithe out togme
                  Ab(1)+fib(0) = 1
            fib (2) + fib (1)
3
              (0 1000 1 = 2
  (CD) 212 + (1-0) dil gib (3) + fib (2)
        Direct Rocursian
     tail montail tree
             (Head)
   Recursion
          Recursion
  Tail Recursion
         stollordo M box
  Class A
   Static void disp (unt 9)
    { ($ (a>0)
      95082 (a);
      disp (a-1);
```

```
class T
       3 v M (Strung KEJ)
    { A - disp (5);
      (otre) (so) the situle
   Non tall (Head) Recursion
 Class A
     Static world disp (unda)
        1 f (aro)
        3 disp (a-1);
          SOPL (a);
ant of cale factory axis
& p s v M (strung KID)
  3 A. disp(s);
 3
```

WAP that Create a method that take a Parameter and return factorial (2) geb 6 Class cale Static unt fad (unto) unt 1 , f=1, for ( i= in ix=a , i++) Seromes (post) Out on W Ecteur 7, blow shot2 39/0 1 dusp (a-1) } 80PL(a); Class T PSVM (Strung KTJ) int & = Calc. fact(5); SOPLE (8) just ) M V2 9 } + (2) 92 UD. A &

oreade a Recureuro Method that takes a farameter and return factorial of guen no. class (ale static unt fact (unta) & (otrit (a = = 0) ) 1/2. retwon 1; else (010) 41 return a & fact (a-1); 50P(0°/03)9 & \* fact (21) 5 x 2 4 fact (3) Classo T 5 4 21 ox 3 ar (fout(2) PS VM (Strung KT) SA NA 3428 (Rati) unt r = (ale. food (5); 5 = 4 00 3 00 2 0 1 00 feet (0) 101020 Ears 25 M (21 miles) => (20 (25) and ola) 0/P 3

treate a method that take q Parameter and desplay domary of given no Class Calc (olm) toob true sitet2 State word bun (unta) if (aro) projection (ala); sop(a%a); (15) toot 4 3. Pholy 4 Just 3 (at a) g & + 11 = 2 (CTH pm + 2) or 1 2 9 } Class of the field also by Ini S & S V M (Strung KEJ) { (ale-bim (25) }



Create a Recursive function that take a Parameter and seelwon Sum of Natural No who A. gumen no. Class cale Static unt Sum (unda) returen 1; return a + Sum (a-1); Class T PS Vm (Strung K[]) g und r= (alc. Lum (s); SOPL (8);

crecele a Recureroup and Power and gasa st Sum(2) method that take No 5 + 4+ Sum(3) Parameter and return 5+4+3 + Sur (2) Toult (NP) S+4+3+2+dur(1) SAU + 3+2+ 1 Class Calculation 5,4 S-latic und Swm (und N, unt P) 1 f (P = = 0) return 1 1) else retwen N+ (N, P-1); § ps ν μ (Strung KΓΙ) 5 \* (=,3)

§ und σ= (ale. Strung (5,4); 5 \* 5 \* 5 (5,1) SOPL (8) 3 2 Krotgag

a Parameter and return removes of guen No; class calc 1 1 1 5 Ent 5=0 Static unt moun (unta) (9 hour & lone ) \$ (a ) 12 return a of to CHINAPONATIN, P-D; 8 = 8 \*10 + 0%-10; revene (a/10); v 29 1 med 30 (also man (5,4) 5 for 5 or 5 ( (6) JYDE resum 3;

Joseph Cale a Recurement method that the take a forwarmeter and return Sum of digit. Static unt Sum (unta) if (ax 10) (moto alor ) reselwon a; ordale else return a, 1/0 10 + Sum (0] [10); relucio i g ( NO W 27  $\alpha = 123$ 3 + Sum (12) 3+2+ Sum (1) 3+2+1 ver (12) a = 12 =76 S= 2 5 =0 \$ =0 1 5-16 0 >0 a = 123/1012 8= 9% 6 ( DUN = 1 Cooks ) fi Sur=dn +x ( tob troth ) 1402 (way expect) years)

Or veale a Recurous method that des play Singly Linked List Values. classo rado cala static word disp (node start) (or) To and of of (stard) == nued) reliven; else { SOPL (Stand data); (E1) mul + 8; disp (start next); (1) mulo + S + 8. } Steerd > x if / 8tast != No 11) SOPL ( stort, dor), don (Sitart New);

Create a Recursive method that display values of Linkard List in alos ecross Class cale static void disp (node stord) if (staret == rued) octum, else (staret next) SOPL (starel. date) 9 (conting, 0 6) bucegagas , 0) butpassesses sop ( a. Charfits ( ai langue -1) "

Orcale a Recursive method that display reverse of given Strung. class calc Static word revisioning (Strung a 10) & Strong sope (a. charge (0)); reversesting (a. 10 bottong (0, a' longer +1)) - sop (a. CharAt (a. length -1))

