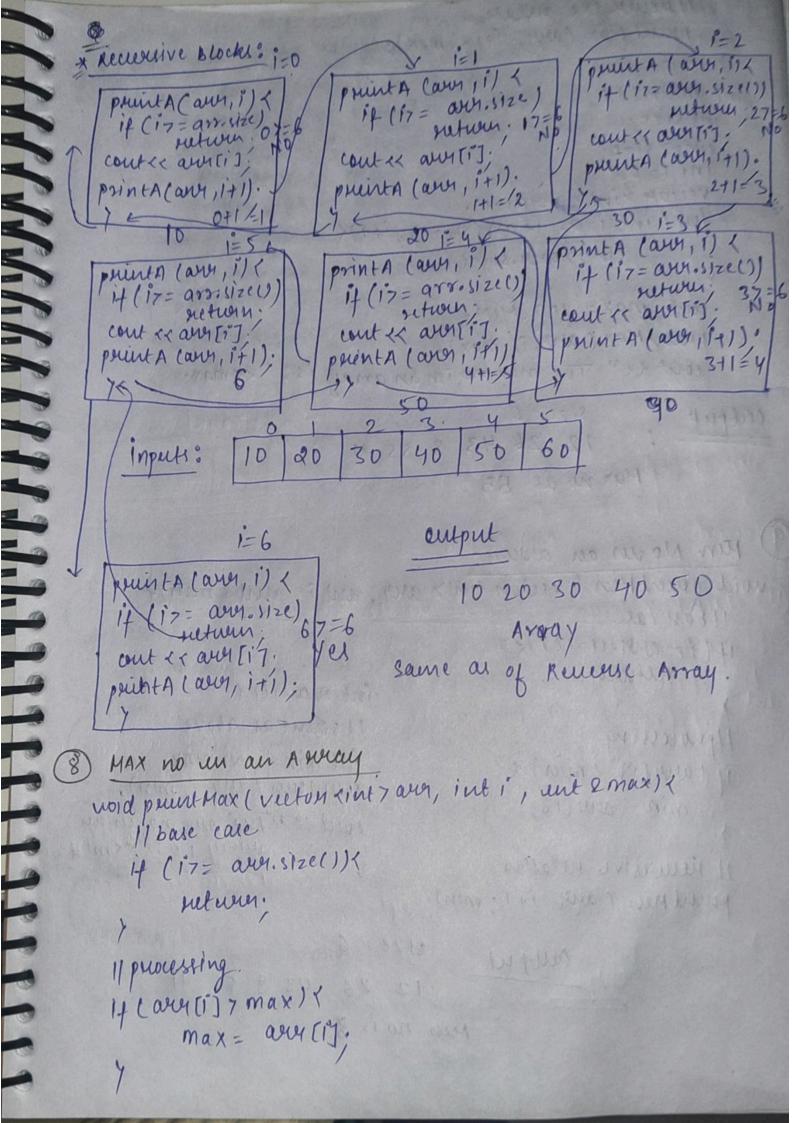
(1) Abonnaci swill und main () unt fibonnacci ( unt num) ? 1/ neuman sumi (num-1) + fibonnació (num-2). 1) recurrence subuliars it ( num == 2) < it (num:= 1) < \_\_\_ culput: strteum 1) base case und num; center the n'th term; ", cin>neum; in the term; ", cin>neum; count or the suhwuno, ruhum 1; A CAT ANOTHER PROPERTY AND THE STATE OF はんからいのうまになれるい というとという 10-11-1-10-1-1-10-2 WORLD TO THE WAYNE CHANGE OF 2 1-1 1000 4410

) Factorial unt factorial (untrum) { Ilbare care output if (num == 1) < The factorial 5 in 126 sections. 1/ necessive relation int fact = neen\* factorial (num-1); suturn fact; unt main 114 unt num; center num unt jact - factorial (num). could "The factorial of" canum ce"is" fact. printeaunt un reverse HEAD & TAIL Recurrier uoid preint (untrum)? 11 base care 11 (num == 0) { output setween 0; num = 5 54327 11 purcessing cout << num << " 1" 1" 1" 1 mg 1 mg 1 mg Il recursive relation. print Count (num-1); unt main () { cout ex Enter the value of num: "; (in >> num. int num; punt Count (num);

unt power of two (wit num)? output Mum = 0 The journey of 20 in 1 num = 3 14(num == 0) { The power of 23158. rution 1; Mucunive relation. int ans = 2x power of two (num-1); netwin and; mt main() < int num; cout << num int pourer : pourer of two (num); couter "The power of 2" renum xx" is: " ex power. Maurine Till mum = 4 aus = 2 x penner of two (3) 2 x 8 = 16 (an = 2x permen of two (2) 2x4=8 Cans = 2 x perecroftuo(1) = 2 x 2 = 4 au = 2x power of two (0) Climb stain: n destination une can take use 1 italis a time on 2 stavu at a time n=2 to made destination. 1(n) = 1(n-1) + 1(n-2) because fund total cases HOW

```
unt climbstairs (unt num)
     11 base care many many many many
     if (num == 0} 11 num == 4) {
           eletium 1;
     int total Mays = elimb Stairs (num-1) + climb Stairs (num-2);
     11 recurrive relation.
     retween totalways;
 int main () <
                              CIRT CONTRACTOR
     cout << "Enter the stairs you want to reach :";
     int num;
      cuin num;
      int totalcares = climb stairs (num).
      couter "The total mays to climb is " " extotal ways;
          output: Enter the stairs you want to reach: 5
                 The total ways to climb 1's: 8
                  We have since we have breet mind by
* Recursive Tree:
                  sclimbstairs (5) 5+3=8 ways
                                climbstairs(3)=3
          climbstain (4) 3+2=5
                                  ccimbstains (2) Climbstains(1
               climbstairs (2)
 (limbstains (3)
                             climbstain(1) climbstains(0)
climbstairs (2) climbstair(1)
                climb stairs (0)
clembstains (1)
```

Print Away with necessors wor'd prient Array (nector cintr and, wit i) Ilbaie care 4 (17 = avu. size) < in main (14 networ. A interze. cur77 size. 11 processing vector light aun (size). · contex austizes 11 input of an array ton (unt i =0; i avr. size; i++) 11 successive relation un77 austij. pountAssay (acres, i+1); print Array (wir, i). output 1020304050 -> mput 1020 30 4050 -> Recursion will print Array. Prunt Array with Recuersion in never Order void prient Array (vector kint ) aun, inti) { 11 sau care H (17= asu. size()) { unt main (1 } rutur : Usame 1) neurisive ullation. puint Array ( au, it1); 11 proceeding couter aur [i] ex" "; 10 20 30 40 50 Input. cutput: 50 40 30 20 10 - Revere Away Remerive true: pA( aver, 6) pA(aver, 1) \_\_ pA(aver, 2) \_\_ pA(aver, 3)



```
Mullisive sulation.
     prent max (aver, it1; max);
 int main() {
   intsize.
   empossize.
   Int 1=0.
    rector kinty avoi(size).
   ton (inti=0. ix arrisizel), 1++)
          curs aus. sizel).
   unt max = INIT MIN.
   purithax (av, i, max);
    cout ex " The max no isn an array
Output stre= 6
          12 26 43 8 55 11
       Max no is $5
 Min Norus au averay:
noid prient their ( vector lint) are, ent i, with men)?
   11 base call
  it (17= aun-size()) {
    ulturn;
                              int main () {
                              11 same as above
  1/processing
                               int min = INT_MAX.
   if (aurli) (min) {
                               puint min (any, i, min).
     min = aurtij;
                               cout K MThe min no vier an
                                      armay is: "xxmin.
  11 neculiare relation.
   peutit min ( auy, i+1; min).
                         8/Ze = 6
               Cutput
                          12 26 43 8 55 11
                       rein no is 8
```

Kny min 2 max variable when passing the ut un function 17 uve don't pass it by nequence, men maxe min becomes local variable for their super respective function and twough the eccurision the peculi value of maxe min in lost of generate the new value due to which for max ut print minimum value of INT & for min it print maximum value of INT which we alon't want. By pass by neferure it mon't create the copy of max/ min variable: whether the changes will be made inside the oxiginal min) max voriables.

take an example To find min value 12 26 43 8 55 11 and me don't me pass by suferences. 07=6 NO ary[0] < INT\_MAX will print INT\_MAX as minimum value. min = 12 of (aux, Oq, min) mini= min (mini, aur[0]) = 1) of (ans, 1, 12) minf min (mini, auuti]) = De At (aur, 2, 12) mini = min(mini, aur[2]) = x Atom (aver, 3, 12)
mini = min(mini, aver[3]) = 18

Al (04, 4,8) mini = min(mini, 04, 4) = \$

(+(au, 6,8)

f(ann, 5, 8) mini = min (mini, aver (5)) - 8

All values well be wit.

Chick key in a string: 6001 checkkey (sesuing smord, unti, waltass exer) ( Uben cari It (is = word- Lungth 1)) int main (14 return false; study mord; ojetune (un, mord); 11 processing. chay Key; if ( woord [i] == Kuy)x cont Kkey; networn true if (cheekkey (word, i, key) 11 necuvaire relation. checkkey ( word , it ) , Key ); couter "Found" Not found. autput Subratungh subratsingh Ferund Not found (1) Check key found at what rinder through rewisions: everyming in same as of quer to just int check key Index ( stowing & word, wint i, chaes & key) < it (in= word lungth()) ( unt maus () { sutwen - 1: 11 same above unt under = if (mord li] == Key 1 x checkkyIndex suture i. ( dword, i, Key) couter under. check key Index (mords, i+1; key). output: subrat singh i - Key 7 - under

check the no. of occurrence of key in a string viert check key count ( wit & mord , witi, ences & key, wint count if (i7= mord. lungth()) < entrous count; if ( word [i7 == Key) { count++; check key count ( word, i+1; key, count); cent maies () ? 11 same as poulieur inti=0, weent=0; unt foug = muck key count ( mord, i, key, count). cout xx fully. sssubratsinghs @ 5-> count cheek the key & stone it any vector: void check key ( struing 2 mord, inti, chankey, rector kint tam), void propertions from the control if (17= neord, ength (1) { int main 11 4 11 11 11 same if (mord [i] = = key) < an push-back (i); vectorintyans. cheek Key (word, i, Key, ans) ton (unt i=0; ix aussizel); check they (mord, 1+11. key, am). coulks anstidis 1 maybes output sssubratsinghs 012813Am

In above ques use are parcing vertous as pass by preference Thez due to again calling of tunction the vector becomes Try empty for every function call due to which it doesn't display during final entput ... wing of sufference we'll add elements to vector in a original vectors during every tune call value will add to original vertoss. Trassuring are use pass by suferiences. Irent Rigit Reners int maun (12 word preint Digits ( wit wenn) & int num; 4 (num == 0) { cun 77 num. networn; 1+(num==0) { contex o. phunt D nut man = num %10 prient Digits (num). cout K Hem. prent Digits (num 110). 11TAIL Remousion Output = 687 - Input 786 - Digits un remense Print Digits same Order void pount Digits ( unt num)? int maler (1 4 it (num == 0) { int num. ulturn. cin 77 núm. 1f(num==0){ puint Digits (num/10); contico. MHEAD RUWENOU pount Digits (num). Int rem = num /. 10. couler sum Output : 687 - input 687 - degits in same order