

NAP to implement linear search algorithm repeat for different value of N, snumber of element in list to be searched and plot A graph of time taken versus N. # include < stdio. h> #include < conio. h> # include < stallib . h> # include < time . h > : (1370 ) int limear (int al ] int n, int key) you (i=0;i<n;i+1) is (ali] = = key) reduran (i); stelwon (-1); 1 at 100 all places to as int \*a, i, n, key, pos; clock t valout, and;



duscr(1; printy / "enter the saige of an averay in")scary ("o',d", &n); a = (int \*) calloc (n, singe of (int)); printy (" elements are: \n"); for (;=0; i(n; i++) ali] = rand (); printy (" " d 1 +", a [ ]); print ("in enter key of search") scan ("1.d", & key); satart = clock (); delay (116); pos = limear (a, n, key); end = clock (); ij (pos==-1) printy ("key mot found"); clas is cot pos %d in", key, post print ( frome takens / & m, (end Start/CLK ICK)

getch() &

output: with townshipmi tot 94. enter the raise of our average. 50 belover of et toll on towns elements are: 346 30 130 175 217. enter key of sacarch. 346, 346 is at 4000 1. timal takern = 10.375 not i thiseen mate a i put ar ten (++(;0>i,0-i) 14 · (5130 4 600.) strice



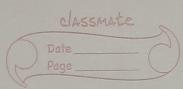
NAP to implement himary salarch algorithm repeat for different values of N, snumber of element in list to be searched and play graph of time taken versus N, # include < Stdio. In> #indude (conio, h) #include & time . h} void maisn() int \*a, flag, i, n, Etem, result, j, temp; clock - + sdart, end; drove(); primy ("enter the size of the array"); Scary (" "/od", &n); a=(int\*) calloe (n, size of (int)); prints ("climents are:"); for (1=0, 1< n; 1+4) ali]= rand(); winy ("% d +", asi);

for (i=0; i<n; i+1)

for (j=i+1; j'<n; j'++)

(clisa < [isa) ju temp = ali]; aci7 = acj]; as j) = temp; print ( enter the Etern to be searched ); scanf ("% of d", & item); redard = clock (); delay (110); glag = besearch (a, item, o, n-1); end = clocker; y ( yag = = -1) sprink (" the item "/od is mot found" item); elac printy!" the iterm "/od found in you "/od", item, fag 12); printy (" time Jaken: "/. o ; (lend - start) / (2x Icx)); getcher;

int beearch (int all, int ftem, int fly int last) int middle; if ( just > last) reduco (-1); elac middle = (firest + last) /2; if ( item < a[ smiddle]) return (beearch (a, item, first, middle-1). evore of ( item > a [ omidale]) redurn (brearch (a, Item, middle +1, last)); reduron (middle); onder the size of the curray 5. elements are: 346, 130, 10982, 1090, 1165 ender the Stern to be nourched 366 the Herm 346 yound in pob 3 time Jokan: 0, 109890



3.	NAP to solve towers of hamoi problem and
	execute it joy different number of disks
7	# include (Stdio. In)
	# include < conio . h>
	#include < process. In >
	void tower (int n, chara, chara, chara, chara)
	3
	ij(n==1)
	& Sato may a suit around
	quint ("move disc %d from %c to %C \n",
	nac); sold ment e delle com
	rolurn;
	3
	toner (n-1, a, b, c);
	porimily (" omove disc " od from "/oc to /oc \n", n,a,c);
	tower(0-1, b, c, a)',
	3
	Void main()
	9
	int n;
	cloresci();
	printy ("enter the number of disc \n");
	scary ("1.0d", den)",
	1- 00 (10 10 11 11 11 11 11 11 11 11 11 11 11 1

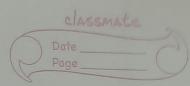
enter the number of disc 3 - 11 m - 2 d company 2 should more diac I from a to c more disc 2 grom a to c move disc i grom 6 to a move disc 3 from a to c more disse 1 from 6 to a move dire 2 prom 6 to a move dish I from C to b. point to move directed from % C do los to



WAP to nort given set of no. using selection work algorithm. Repeat you different value of N, number of element in list to be seavered and plot A graph of time taken valleries N. the element can be read from a file or can be generated using random soumber generator # include < 5+dio . In> void main!) unt allood, sum min, 1,8, temp; primy ("in please enter the total elements:") scary ("1.d", & voum); printy (" in please enter the array elements"); for l'=0 ; Knum; itt) search [ " o/od", & asi]), Jor (120, 1< mum -1; 1+4) Joe (j= 1+1; j< num; j++) if (a Lomin) > a[j])

milm 2/3

3 miles The william ret to if (min 1=1) temp = a[i]; asi) = asmin) a[ misn] = temp; trinf ("In result:"); for (1=0; is num, it+) printy ("1.d \n", asi]); Trimy ("In"); getcher; outrut. Please enter the total elements: 5 please enter the array elements 5 requet ?



WAP to find value of A waing lavute jours based algorithm and divide and conquer based algorithm 7. # include & Sidio. h> int power (int ni int nz); void main () int base a viesult. closur(); printy ("enter the base number"); Decony ("1/0d", & base); primi [ "enter porer onumber posidire number): ") · scan ("1.d", &a); result = power (box a); prenty ( " " ! d ~ " ! d = " d" base a viesult )", getcher; int power ( int base, inta) if (a!=0) vieturn ( base # porer (base, a-1)); roduron 1"

output: enter the base mumber: 2 enter the posen number (posidire number): 5 DA 3= 35 -