Bubble Govet # include Latdio.h) int main() intarcay [100], n.e.d. swap; print f ("Enter number of elements | "); 'scanf (117.d", sn); proint ("Enter 1.d integrus (n", n); for (e=0; ezn; e++) seanf ("/d", saray [e]); for (e =0; e <n -1; e++) 2 for (d=0; dxn -e-1; d++) " if (array [d] > array [d+1]) - corray [d]; array [d+1]; array [d+1] = swap;

Printf ("Sorted list in ascending oxders: In") fort (c=0; exn; c++) printf ["/d/n") arrad [e]); returno; (00 - 1010) Bubble Goxt Algo: World case performance o (n2) Best case performance o(n), Average o(n2) Linear Sereh (O worker # include 2 stdio.h) int main () inta [20], i, x, n; my many sass 4 mon proint (11 How many elements ?")) -09 scanf (4%d", sn); 00 3000 3000 printf (" Enter auray element s:n"); for (i=0; izn; ++i) Scanf (" "d", Ba[i]);

printf ("n Enter element to sewich:"); Scanf (v/d", sx); for (i=0; i2n; ++i) if (a[i] = = x) convenien break) Bubble Gox Alper if (izn) printf (" Element found at index 1.1".) else printf ("Flement not found"); returno; Algo; Worst case performance O(n) Best case performance () (1) Average coise O(n) by how bring ("Enter access element ex n.).

Insertion South: #include Letdio.h) int main () d int i, i, count, temp, number [25] point f ("How many numbers reacted ging to enter ?!"); Scenf ("" d", scount); printf (" Enter 1 d element:", Count); for (i=0) is count; i++) scoent (" /d', is number [i]); fort (i=1; i2 count; 1++) temp = number til ず=1-1:人生にはないのからいつきりなみ while ((temp Lnumber [j]) wx()=0) / wimber [j+1] = temp; proint of C"ourders of sorted elements:"); ([forc. (i=0 / ix count; i++) print ((X d') number [1]); Manipar [t] = femily

Worst case Perfomance O(n2) Best case perfomance o(n)
Average case o(n2) Selection Sart: Hindlude Lstdio.h) printe ("Enforze int main () h int i, J' (Count) temp, number [25]) printf ("How many numbers ware going to entury)
Seant ("/d", is count)) printf (" Enteril delements: ", count); for (i=0; i LCount; i++) seant (").d", snumber [i]); for (j= p-1+j x count; j++)h if (number [i]) number [i])d temp = number [1]; number [i] = number [i] number [] = temp

Print ("Sorted elements:"); for (i=0; il Count; i++) printf (" /.d", number [i]); [Tor I return of a medical a top of a top of printle ("Fator 2 of minus of at elements And? Stone (" Xd" pan) Algo. Deint (12 Enforzy d integerator)" Wordst care perofomence o (n2) Best cone performance o(n2) Average conse performance 0(n2) middle = (firest + last) / 25 While (first 1= 1ast) is (access traidal of I search first - middle +1: else Ne Carray [middle] = = seavely print Med found at heartion 2 d. m", share

Binary Search; 2+0000000 botton #metude 2 stdio.h) int main() ? inte, first, last, middle, ne search orang [] a) printf ("Enter 2d number of elements \n'); Scant (" Y.d", osn); print (" Enter y, d integers \n", n); for le=o; ezniett) scanf ("/.d", ssoreh); Avest = 0 ; comotorog o cust approved last = n - 1; middle - (first + last) /2) While (first 1= last)? if (array [middle] < search] firest = middle +1; else if Canay [middle] = = search! printf ("/d" found cet location id)n", sear break;

(8) else e last = middle -1; middle - (first +last)/2; if (fives + > last) print P ("Not found! I'd isn't present in the lest returo; while coumber 1775 mumber spiral Algo: Worst ease performance o (109n) Best cose per la mance o(1) Average case penfomance o(129n) (Povia) member [pivol] (1 The diment - [Herrig] redown 19mol - Wy redmyn quieksont (number 1710+17-1)

(9) Quick Sout: 1-0 lobin = 1801 Hinelude 2 stdio. hs void quiek Sout (int number [25], int fixet int lest) int i, t, pivot temp; if (fixet Llast) pivot = five +; lower town thing i = fixest; while (number [i] L= number [pivot] us i 2 lost) it = last; While (number [[]) number [pivot]) itt' Mores + Earle Delice in asset オーー)れ temp = number [i] number [] = number []; number [f] = temp; temp = number [pivot]; number [pivot] = number [7]; number [ti] =temp; quiekson+ (number , first, j-1);

quick Sox + (number, j+1, las+); int main () of int i count, number [25]; print f ("How many elements one uguing to entor?"); Scanf ("7.d", & count)) print ("Enteryd clements;", count); for (i=0; ix count; i++) scanf ("Y.d", & number [i]); quieksart (number , O, Count -1); print ("oxoler of sorted elements:"); For Ci=o; iz count; i++). print f (" ", number [1]); wonst ease performance o(n2) Best case performance o(n) return 0; Average care performance o (nlogn)