Task5: Implement various Searching and sorting Operations in python programming.

Aim: To implement various searsching and sorting Operations on bython parogramming.

5.1 A company stores employee records inalistof dictionaries, where each dictionary contains id, name. and department write a function find employee by id that takes this list and a target employee 20 as arguments and return the dictionary of the employee with the matching ID armone if no such employer is found.

Algorithm:

- 1) Input Definition:
- 2) Define the function find employeeby : a that takes two parameters:
 - a) A List of dictionaries (employes), where each dictionary The presents an employeerecord with keys id, hame and depart ment
 - b) An integer Harget id) representing the employeeID to be searched
 - 3) It erate Thorough the list: Use a for loop to itorate through each dictionary in the omployees list.
 - u) Check for matching Io: within the loop, check; Ethe id fieled of the currend dictionary matcher the target - i'd
 - 5) return matching Record:

If a match is found, return the current dicitionary

6) Hardle No match: If the loop completes without finding a match return None.

Control Capital Control Purple of the Control Andrews of the Control of the Contr output:
To implement various searching and sorting the Elid': 2, name' = 'Bob, department' l'Engineerings entité (Di & dintrés) promotification de production principal adopourtment conte a familien final amplayeers. hat take a this Use to and a tonget evapous est o mounts and return the diction and of the consider The the most ching In a rivement no such amplify is Input Definition. Definethe function tind employeebs ; d. that fairces the parameter of dictionaries (employers) where each ordinaries are parameter of the court ment.

In the straight ment. ar withourses a co. Or, the continue this wife

def find-employee_by-id Lemployees, target_id); for employer in employeer. if employee [id] = = tanget_id: return employee nuturn None aff Test the function employees = [g'id:1, name: Hice, de partmend: 1 He'3, 3'id: 2, 'name': 'Bob', 'deportment': 'Engineming'3, S'id: 3, name: 'Charlie', 'department's' sales'3. Print (find - employee_by-id(employees,2)) 5.2 you are developinger grade management system for as chod. the system maintains a list of student records, where each record is supresented as a dicitionary containing a studenti's name and scores. The school needs to generated report that displays students (scores asing the Bubble sort algorithm: Algorithm-1) In tialization: =) Get tu longth of the students list conclitoreitibin: 2) outer loop: =) Therate from i=0 to-n-1 (inclusive). This loop supresents the number of passe. throughtherist 3) Torate Swaps: =) Initialize aboolean variable swapped flarethis

swarps are mad in the current

variable will track it any

Porogram:

```
4) Inner Loop!
* Iterate from j=0 to n-i-2 (inclusive). This loop compar es
  a diacent elements in the list and performs cwaps
  + hecessary
5) Compare and Swap:
* for each point of adja cont element (i-estudent til) and.
   Students Litury
ompare their Score values
* III students til Dicor & J> stududonts tit Ut soor ell, scoop
   the two elements
* set swapped to take to idicate that a scoop was made.
6) Early termination:
* After each part of the inner Loop Check it swapped istabe.
 IF hoswaps were made during the bass Listis already
  sotred and you can break out to fithe o enter loop early
7) completion:
 * The Function modifices the students vistingle ce, sorting
    it by score.
                     Ezz: 190021, 19000101 1: 1900013
  P91097am 5.2
  def bubble sort scores (Students):
      n = Len (Students)
    for ; in range (w);
   At Track if any sweep is made inthis pay
     Swapped = False
      For gin range (oin-9-1);
  of Estudents [3] [source] > Student [3+17] [Ucore];
# swap if the score of the currents student is grower
  than the next student [i], student [i+i] istudent[i]
       swapped = True
   # IF no two etements were swapped, the USA
   is alredof sorted
     ; f not swapped:
      break.
```

1111493311 doors plus and mo output:

(i) trobist 29 4) the mosts the bold to Yaminhouse, でしてははからいり Before sorting! contract cost of wall Ename!: \Alice, Score: 8 & rost [] throbush ? S'hamé: 'charrie', 'score: 453)

S'hamé: 'charrie', 'score: 453) I hame: Crowner, instruction of the contract of the state hosesaps were made during thepass listers already yed and you can based ecel to fight 48 six 4979 for is up (c frem E'name': Charlie, Score: 7537 bom ns franch'en .01005 GAJ E'name: Diana, Score!: 853 TO MANY S'name: 'A lice', (Usicon 192) 883,2 1002 or Idduct {\name: \Bob; \score: 953 (denshiote) nos : 11 ilm record e (M); Caractit any sweep is made inflighed Superpred = Calle 他一たりのようらいのないから にっちょ Coronal Care Jehnsburg China 2 J.C. Student # Example Usage Student = [

E'namé: Mice, 5 coré; 883

{ name: Bob's score: 953

{ 'name: 'Charlie', 'Score,: 753,

El name! : Diana, Iscore, 853

point("Before sorting")

forstudent in students:

print (student)

bubble-sort- scores (Students)

Pountoin Aftersorting").

for student in students:

print (steedent)

VEL TECH	
EX NO.	5
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	~
RECORD (5)	-
TOTAL (20)	>
SIGN WITH DATE	10

Thus the program for vorious sear thing and corting operations is executed and vorified successfully.