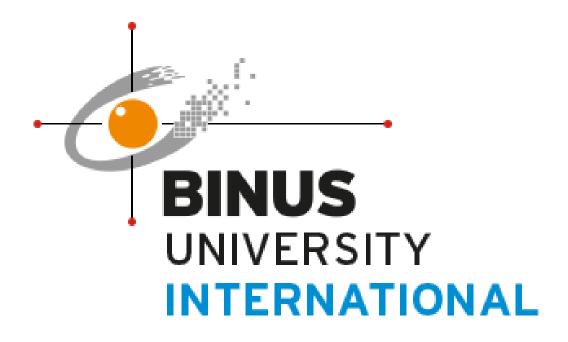
Data Structure Final Project



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L2BC / Computer Science

Problems Description

As for a startup company or some people that are planning to start a business, they need some preparation to start their business. One of them is when they have some employees or staff, they will need some program to store the data of the employee or staff that is working for their business. As for the solution, we came up with a program where they can store their employees or staff's information.

Choice of Data Structure

The data structure that we use is vector. Why we used vector is because vector is a one-dimensional data structure and easier access to the memory. Even though it consumes more memory, vector can manage the memory and also can extend dynamically.

Alternative Data Structure

Other data structures that can be used in our program would be arrays or linked lists. Array consumes a small amount of memory because its memory cannot extend dynamically where it's not suited for our program. On the other hand, linked lists are the best when it comes to insertion and deletion elements in the middle but it is not the best when you want to access a known index.

Program Manual

This database program uses a command line interface. A menu will appear when you start the program, and it will prompt you with 5 actions.

```
Input an action:
```

1.) Here the program prints every value in the database in an set order and you will be able to view your database.

2.) This is the setters of the value

3.) This class to run some function that is featured in our program

4.) This class is for showing that the database is updated and for removing value

5.) Starts the driver file with declaring variable

6.) While function to make sure the program runs endlessly except choose the terminate function

```
cout < "Input Birth Date: ";

cin >> BirthDate;

EMPLOYEE.EmpBirthOute.push_back(BirthOate);

cout < "Input Phone Number: ";

cin >> PhoneNumber;

EMPLOYEE.EmpBroneNumber.push_back(PhoneNumber);

cout < "Input Position: ";

cin >> position;

EMPLOYEE.EmpBrosition.push_back(position);

cout < "Input Hours Worked: ";

cin >> hoursWorked;

while (HoursWorked:6)(

cout < "Value must be a positive integer: ";

cin >> HoursWorked.push_back(HoursWorked);

EMPLOYEE.EmpHoursWorked.push_back(HoursWorked);

cout < "Input Hours Worked Overtime: ";

cin >> HoursWorket.push_back(HoursWorked);

cout < "Input Hours Worked Overtime: ";

cin >> HoursWorket.push_back(HoursWorked);

EMPLOYEE.EmpHoursWorket.push_back(HoursWorked);

cout < "Input Hours Worked Overtime: ";

cin >> HoursOvertime;

while (HoursWorket.push_back(HoursWorked);

EMPLOYEE.EmpHoursWorket.push_back(HoursWorket);

EMPLOYEE.EmpHoursWorket.push_back(HoursWorket);

EMPLOYEE.EmpHoursOvertime;

while (HoursWorket.push_back(HoursWorket.push_back(HoursOvertime));
```

```
cout << "Input Normal Rate: ";

cin >> RateNormal;

while (RateNormal(a)){

cout << "Value must be a positive integer: ";

cin >> RateNormal, push_back(RateNormal);

EMPLOYEE.EmpRateNormal.push_back(RateNormal);

cout << "Input Overtime Rate: ";

cin >> RateOvertime;

cin >> RateOvertime;

cout << "Value must be a positive integer: ";

cin >> RateOvertime;

cin >> RateOvertime;

Provide aust be a positive integer: ";

cin >> RateOvertime;

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cin >> RateOvertime;

provide aust be a positive int
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Results

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1. View Database
2. Insert new employee
3. Edit employee data
4. Delete employee data
5. Close
Input an action: 2

Input 1D: 21
Input Nume: hancel
Inp
```

```
COUNTY Normal Rate: 10
Input Normal Rate: 2
Input Normal Rate: 2
Input Normal Rate: 2
Input Normal Rate: 3
Input Normal Rate: 3
Input Morabase
2: Insert new employee
3: Edit employee data
4: Delete employee data
5: Close
Input an action: 1
Input an action: 1
Input an action: 1
Input an action: 1
Input an action: 4
Input Batabase
2: Insert new employee
Input an action: 4
Input an action: 5
I
```

Answer for question from the day of presentation

1. Delete by ID

Added to the file

2. If a lot of employees are deleted by half, what happens to the memory?

The memory of the vector cannot be decreased but the memory space that has been used, will be reused for the future elements so that it can be inserted efficiently