

# PROJECT REPORT ON PENSION AND COMMUTATION CALCULATOR FOR BANK EMPLOYEES



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# INTRODUCTION

Our project topic is pension and commutation calculator for bank employees to ease the work for a BANK EMPLOYEE.

Language we used to create the calculator was PYTHON 3

## BASIC REQUIREMENTS

INPUT :- User enter the values to calculate the Pension.

Process :- The application processes the values according to the formula and throws the value on the display.

Output :- The user is given the calculated values.

## REQUIREMENTS

### ◆ Software

1. Operating System : MAC/WINDOWS/LINUX
2. Language : Python

### ◆ Hardware

1. Processor : Dual Core
2. Hard Disk : 100Mb
3. Memory : 1 GB
4. Monitor : Any color Monitor

5. Keyboard : Any standard Keyboard
6. Mouse : Any standard Mouse
7. Network : Not required

## LIBRARIES USED

In this project we used two libraries

1. TKINTER
2. PILLOW

TKINTER :- this library is basically used to create Graphical User Interface Tkinter is the standard GUI library for Python. Python when combined with Tkinter provides a fast and easy way to create GUI applications. Tkinter provides a powerful object-oriented interface to the Tk GUI toolkit.

Creating a GUI application using Tkinter is an easy task. All you need to do is perform the following steps -

- Import the Tkinter module.
- Create the GUI application main window.
- Add one or more of the above-mentioned widgets to the GUI application.
- Enter the main event loop to take action against each event triggered by the user.

**PILLOW :-** It is a Python Imaging Library (PIL), which adds support for opening, manipulating, and saving images. The current version identifies and reads a large number of formats. Write support is intentionally restricted to the most commonly used interchange and presentation formats.

To install pillow using pip, just run the below command in your command prompt -

```
python -m pip install pip
```

```
python -m pip install pillow
```

# MODULES

## ○ Commutation Module

This module would take all the values and give you the  
Commutation

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## ○ Pension Module

This module will calculate the pension generated from the  
PF

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All the Modules compiled and edited with GUI

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# FORMULA USED

## ○ PENSION

$$\text{PENSION} = \frac{\text{BASIC PAY} + \text{P.F} + \text{SPECIAL PAY} + \text{STAGNATED PAY} + \text{GRADUATION PAY}}{2}$$

- If number of years worked is > 33yr  
Pension will be like above
- If number of years worked is < 33yr  
Pension = Pension - x(3.030)  
Where x = 33 - no. of years worked
- If number of years worked < 10yr  
Pension = 0.0

## COMMUTATION

$$\text{COMMUTATION AMOUNT} = \frac{\text{Pension} \times \text{Commutation Percentage}}{100}$$

- If Commutation Percentage  $\geq 33.33$   
Then commutation percentage used in formula is 33.33
- If Commutation Percentage  $< 33.33$   
Then commutation percentage used in formula is same

$$\text{Commutation value} = \text{Commutation amount} \times \text{commutation factor} \times 12$$

- If Age is  $< 61$   
Commutation Factor = 9.81
- If Age is  $> 61$   
Commutation Factor =  $9.81 - x(0.3297)$   
Where  $x = \text{Age} - 61$

$$\text{Reduced Pension} = \text{Pension} - \text{Commutation Amnt}$$


$$\text{Per year} = 3.030357$$

# INPUTS REQUIRED

- Basic Pay
- Provident fund
- Special pay
- Stagnation pay
- Graduation pay
- Number of years of work
- Age at next birthday
- Commutation percentage

Calculator

Calculator for pension and commutation of bank employees



Basic Pay: 0100000

Provident fund: 15000

special pay: 1500

stagnation pay: 1500

graduation pay: 1500

number of years of work: 33

age at next birthday: 61

commutation percentage: 30

pension commutation Quit

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# OUTPUT FOR PENSION

Calculator

Calculator for pension and commutaion of bank employees



Basic Pay: 100000

Provident fund: 15000

special pay: 1500

stagnation pay: 1500

graduation pay: 1500

number of years of work: 33

age at next birthday: 61

commutation percentage: 30

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pension is:59750.0

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# OUTPUT FOR COMMUTATION

Calculator

Calculator for pension and commutaion of bank employees



Basic Pay: 100000

Provident fund: 15000

special pay: 1500

stagnation pay: 1500

graduation pay: 1500

number of years of work: 33

age at next birthday: 61

commutation percentage: 30

pension:59750.0  
commutation\_amount:17925  
commutation\_factor:9.81  
commutation\_value:2110131  
reduced\_pension:41825

pension commutation Quit

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28-10-2020

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