Python for Computer Science and Data Science 1 (CSE 3651)

MAJOR ASSIGNMENT-1: VARIABLES, OPERATORS, CONTROL STRUCTURES, AND FUNCTIONS

1. Write a Python function **basic_salary** that accepts two parameters: **hourly_rate** and **hours_worked_per_week**. The function should calculate the basic salary per month (assuming a month has 4 weeks). If the hours worked per week exceed 40, create another function **overtime_salary**, where every extra hour worked is paid at 1.5 times the normal hourly rate. Finally, create another function **total_salary** that returns the sum of the basic salary and overtime.

2. Create a function **tax_amount** that shows how much taxes are deducted from the basic salary. Taxes are applied as follows:
   - If the salary is less than Rs. 60,000/-, deduct 10% as tax.
   - If the salary is between Rs. 60,000/- and Rs. 85,000/-, deduct 15% as tax.
   - If the salary is more than Rs. 85,000/-, deduct 20% as tax.

3. Using the function basic_salary from Question 1, write another function **gross_salary** that calculates the gross salary of an employee. This function should accept basic_salary as input (output from Question 1), consider a fixed value of allowances (e.g., 20% of basic salary), and return the gross salary (basic salary + allowances - tax).

4. Using the gross_salary function from Question 3, write a function **salary_bracket** that categorizes the employee's gross salary into one of the following brackets:
   - "Low income" if gross salary is below Rs. 50,000/-.
   - "Middle income" if gross salary is between Rs. 50,000/- and Rs. 80,000/-.
   - "High income" if gross salary is more than Rs. 80,000/-.

5. Take three different sets of employee names, hourly rates and hours worked per week as user input. Write a Python function **employee_report** that generates a formatted report of all employees' salary details. This function should print the employee names, basic salaries, gross salaries, tax amounts, and salary brackets in a readable format.