# Tasks

# QUESTION#1:

# Write a C++ program to perform the following tasks:

# 1. Dynamically allocate memory for an integer array of size N.

# 2. Find the following:

# - The sum of all the even numbers in the array.

# - The product of all the odd numbers in the array.

# - The maximum value in the array.

# - The minimum value in the array.

# 

# QUESTION#2

Write a function that takes two arguments as inputs: an pointer to integer p and size s. You are required to allocate memory for an array with s elements of type int using “new” operator. As your next step, randomly initialize all the elements of the arrays and then update each element value with its square, i.e. replace each element value with its square and print updated array values in main.

Question for your thought why we are passing the pointer by reference into the function?

# QUESTION#3

Write a function that takes two arguments as input: an array of pointer ptr. Your goal is to define memory for four individual integer and store the addresses of these four variables into the each location of ptr. Next please randomly initialize all the four variables using ptr and find the maximum value and return this value from the function.

# QUESTION#4

Define and initialize five arrays of integer types each having n elements and an array of pointers p of size 5. Store the starting address of each array to array of pointers p. Next, initialize the values of these fives arrays randomly using for loop and p. Finally display the sum of the each individual array. You are not allowed to access the array using original variable name.

QUESTION#05:

Write a C++ function to calculate the net salary of an employee based on the following rules:

1. Ask the user to enter the basic salary of the employee.

2. Calculate the gross salary based on the following criteria:

- If the basic salary is less than or equal to 5000, the HRA (House Rent Allowance) is 20% of the basic salary, and the IA (Infaltion Allowance) is 10% of the basic salary.

- If the basic salary is more than 5000 but less than or equal to 10000, the HRA is 25% of the basic salary, and the IA is 15% of the basic salary.

- If the basic salary is more than 10000, the HRA is 30% of the basic salary, and the IA is 20% of the basic salary.

3. Calculate the net salary by subtracting the employee's contribution to the Provident Fund (PF) from the gross salary. The PF contribution is 8% of the basic salary.

4. Display the HRA, IA, gross salary, PF contribution, and net salary.

Note: All the variables of Base salary, HRA, IA, PF and gross salary should be created in main, and an array of pointers that stores their addresses, and that array should be passed as an argument to the calculate salary function.