

## Practice Questions

### Class and object, function outside class

1. Suppose that a new outlet of Lovely Autos has opened its new branch in a city. It allows the manager to keep the records of all cars. For this, they need the detail of the car like, manufacturer, model name, engine number, chassis number, year of manufacture and color. Create a class with member functions for entering the required details of the car and displaying the output in a proper format.

### Inline function

2. Suppose that Google has opened his office in Chandigarh recently. Now there is the requirement for the new employees in a company. The manager to keep the records of all Employees. For this, they need the detail of the employee like employee name, experience of the employee, age, status of the employee (married or unmarried). Create a class with member functions for entering the required details of the employee and inline function for displaying the output in a proper format and check whether the employee is eligible or not.

### Static data members and member functions

3. Suppose that a student wants take the admission in LPU, he needs to enter his information to take admission. University provides admission for 2017 or 2018. You need to design a program to generate a unique registration number for each new admission, and it should be incremented by 1. You can use static member function to check the status of registration number.

## Structure

4. A university has maintained the records of 10 students like name, rollno, address-city, pincode, district, regno, and marks in a structure. WAP to search the student with name "Rakesh" in structure and display his location in the record.

## Function with default arguments

5. Suppose you want to invest your money in bank fixed deposit. You want to invest for minimum 3 years and rate of interest given by bank in 8.5 %. Now you want to check what will be the final amount that you will be getting at the end. If there are two ways of computing interest as simple interest and compound interest. So find the final amount that you will be getting if it computed as simple interest and what will be amount that you will be getting if it computed as compound interest. As the rate of interest is fixed so put this as a default arguments to functions.

Formula : Simple Interest :  $\text{Amount} \times \text{rate} \times \text{time} / 100$   
Compound Interest:  $\text{Amount} \times (1 + \text{rate})^{\text{time}}$

#### Function Overloading

6. Suppose that in company ABC Ltd a Graphic designer has drawn shapes like circle, square and rectangle on a sheet to draw a clown .After drawing he wants to calculate area of circle, square and rectangle using the dimensions taken by him for drawing shapes. Use concept of function overloading to calculate the area of the mentioned shapes drawn by the designer.
7. Suppose in Lovely Professional University a student came to take admission and went to admission counter. The admission in-charge wants to enter student detail information like name , father's name, mother name, age and fee to be paid. So use concept of function overloading to create a function to enter student name, The same function should be used to enter father's name and mother name. The same function should be used to enter age and fee to be paid by student for a particular course and display the information .Check eligibility of the student by checking age .

#### Friend function and class

8. One person X has the information of temperature and humidity value of the day. He shares this information with his family member only. Now, another person Y wants these values but he is not a family member. Now the question is, how does the person Y takes the information from person X?

#### Call by value

9. Person X wants the help of person Y to calculate his percentage. Person Y can perform some action, which is needed by person X. Then person X has to pass some information (marks of three subjects) to person Y, so that person Y can perform the action using this information and give the result. Now the question is, how does the person X pass the information?

## UNIT 2

### Void pointer

10. The manager of security firm asks his employee to store the data about product number, cost, supplier\_ID and status (a or i). But due to restrictions he cannot use the variables name, he has to use a single pointer to each variable. WAP to store the above details with using single pointer. A is active and I is for inactive

### Pointer to member and object

11. Create a class of movie data member like title, year, award, hero, heroine, type of movie, and language. And declare an object and pointer to the class movie, and invoke the data members using pointer and to search the movie with name "PK" and display remaining details of "PK".

### This Pointer

12. Calculates the area of rectangle by accessing the data member's **l** and **b** using **this** pointer.

## UNIT 3

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13. Suppose a bank want to store the detail of a customer like customer\_name, account\_number, DOB and balance in the account. Create a class customer with 4 data members and 1 member function to display the detail on the screen. Delete the object latter on using destructor. Declare one parameterized constructor to initialize the detail of bank customer.
14. Suppose you are the class incharge of your class and the school has given you responsibility of sending results to the parents of the students. New students are enrolled in your class. For this, you will be requiring address details of the students like student name, fathers name, House no, Street, colony name, village, city, district, country and zip-code of new student. Using constructors and appropriate member functions, create a class for entering the required address details of the student. Use the destructors to destruct the memory and show the detail of the student is closed.
15. Suppose that examination is going on in a school. There are 2 subjects science and maths that are included as part of exams. There are few students in every section and few students have same marks. So we need to copy marks of one of the student to another student. For that create a class named marks and make use of copy constructor to copy the marks from 1 student to another.