Practical Lecture 1: Concepts & Basics of C++ Programming

Quick Recap

Let's take a quick recap of previous lecture –

A) Basic data types

B) Derived data types (Array, structure, union, enum, pointer)

C) Array / Structure

D) Union

E) Enum

F) Cin and cout

G) Concept of class

Today's

Today we are going to cover -

- Coding Practice Question

- MCQ Practice Questions

- Theory Practice Question

- Q&A Time

structure

- A *structure* is a group of dissimilar data elements grouped together under one name.

- These data elements, known as *members*, can have different types and different lengths.

union

- Unions allow one portion of memory to be accessed as different data types.

- Its declaration and use is similar to the one of structures, but its functionality is totally different

- The size of this type is the one of the largest member element.

- Modification of one of the members will affect the value of all of them

- It is not possible to store different values in them in a way that each is independent of the others.

enum

- An enumeration is a user-defined data type that consists of integral constants.

- It is mainly used to assign names to integral constants, the names make a program easy to read and maintain.

- enum season { spring, summer, autumn, winter };

- And, spring, summer and winter are values of type season.

- By default, spring is 0, summer is 1 and so on.

- You can change the default value of an enum element during declaration (if necessary).
  enum season { spring = 0, summer = 4, autumn = 8, winter = 12 };

Function

- Built in
- User defined
- Ways to invoke function
  1. accept input and return output
     int sum(int , int);
  2. accept input and no output
     void sum (int , int);
  3. no input and return output
     int sum();
  4. no input but no output
     void sum();

Let's Get Started-

5. The data elements in the structure are also known as what?

A.) objects

B.) members

C.) data

D.) objects & data

Solution

5. The data elements in the structure are also known as what?

A.) objects

B.) members

C.) data

D) objects & data

Explanation: Variables declared inside a class are called as data elements or data members.

6. What will happen when the structure is declared?

A.) it will not allocate any memory

B.) it will allocate the memory

C.) it will be declared and initialized

D) it will be declared

Solution

6. What will happen when the structure is declared?

A.) it will not allocate any memory

B.) it will allocate the memory

C.) it will be declared and initialized

D.) it will be declared

Explanation: While the structure is declared, it will not be initialized, So it will not allocate any memory

7. Which of the following is a properly defined structure?

A.) struct {int a;}

B.) struct a_struct {int a;}

C.) struct a_struct int a;

D.) struct a_struct {int a;};

Solution

7. Which of the following is a properly defined structure?

A.) struct {int a;}

B.) struct a_struct {int a;}

C.) struct a_struct int a;

D.) struct a_struct {int a;};

Explanation: option struct {int a;} is not correct because name of structure and ;(after declaration) are missing. In option struct a_struct {int a;} ; is missing. In option struct a_struct int a; {} are missing.

Let's have a quick hands-on some practice Questions

1. Explain Procedural paradigms with example.

2. What do you understand by input and output stream.

3. What is structure explain with example.

4. What Union are important explain with example.

5. Explain Enumeration with example.

1. Write a program in C++ to convert temperature in Celsius to Fahrenheit.

Sample Output:

Convert temperature in Celsius to Fahrenheit :

Input the temperature in Celsius : 35

The temperature in Celsius : 35

The temperature in Fahrenheit : 95

2.Write a program to print all the prime number from 1-100.

3.Write a program to print the factorial of a number.

Input:-5

Output:-120

4.Write a C++ program to find LCM of two numbers using functions.

6. An array stores details of 25 students (roll no, name, marks in three subject).

Write a program to create such an array and print out a list of students who have failed in more than one subject.

Any
Questions ??

Thank You!

See you guys in next class.