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- ⇒ 12982
- ⇒ BSC Tele)
- ⇒ Object oriented programming
- ⇒ Dear Sir Ayaz Khan.
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Q No → 1. What is class and role object in a class explain in detail with the help of suitable program?

Ans: → A class is a user defined data type

→ The instance of class are called object.
→ class is a place where we can define the properties and functionalities of the objects.

Object rules in class: - An object is the instance of the class, which help programmer to user act like variable and methods from inside the class.

- Object acts like a variable of the class
- Objects have a physical existence.
- An object takes memory when a programmer creates one.
- Objects can be declared several time depending on the requirement.

Program // Member function Definition
void item :: getdata (int a, float b) // user membership

```
{  
    number = a;           // private variable  
    cost = b;            // directly used  
}
```

// Main program
int main()

```
{  
    item x; // create object x  
    x.getdata (200, 175, 50); // call member function  
    x.putdata (); // call member function  
    return 0;  
}
```

Q No → 02

Write a program about table printing which takes input from the user on the basis of oop and explain in detail.

Ans

→ Encapsulation:-

The different objects inside of one program will try to communicate with each other automatically. If a interacting with each other, they need to be encapsulate in individual classes. Through the process of encapsulation classes cannot change or interact with the specific variable and function of an object:-

Abstraction:- is one of the most powerful and vital feature provided by object-oriented c++ programming language. In object-oriented programming language the programmer can abstract both data and code when needed. Here we discuss about abstraction in c++

Abstraction means providing the essential features without showing its inner details.

hiding in 'detail' internal implementation.

Inheritance:- is a relationship between two or more classes where derived class inherits behaviour and attributes of pre existing (Base) classes. Intended to help reuse of existing code, with little or no modification.

Polymorphism:- is a generic term that means many shapes. More precisely Polymorphism means the ability to request that the same method be performed by a wide range of different types of things.

→ In OOP, polymorphism is a technical issue and principle.

→ It is achieved by using many different techniques named method overloading, operator overloading and method overriding.

Question No \rightarrow 02

Program:-

```
# table from (1 to 10) in python
# taking input from user
table = int(input("table of "))
# program runs from 1 to 10
for i in range(1, 11):
    print(table, "*", i, "=", table * i)
```

Python 3.8.5 (tags/v3.8.5: 580
Type "help"; "copyrights", "clear

table of 5

$$5 * 1 = 5$$

$$5 * 2 = 10$$

$$5 * 3 = 15$$

$$5 * 4 = 20$$

$$5 * 5 = 25$$

$$5 * 6 = 30$$

$$5 * 7 = 35$$

$$5 * 8 = 40$$

$$5 * 9 = 45$$

$$5 * 10 = 50$$

>>>

Question \Rightarrow 03

Write a program about any 2 cars which can calculate the performance of both of them and explain in details?

Answer:-

```
import java.util Scanner
public class Exercise 12 {
```

```
public static void main (String [] args) {
    Scanner in = in.nextInt();
```

```
System.out.print ("input speed (KM/H) of
second car:");
int car 2 = in.nextInt();
```

```
System.out.println ("Performance of
two cars." +
(car1 + car2) / 2);
```

```
}
}
```

Simple output

Input Speed (KM/H) of first car : 100
Input Speed (KM/H) of Second car : 80
Average of five number is : 90.