

Class and Object

[SET – 1]

- 1 Define a class student with the following specification
Private members of class student
admno integer
sname 20 character
eng. math, science float
total float
ctotal() a function to calculate eng + math + science with float return type.
Public member function of class student
Takedata() Function to accept values for admno, sname, eng, science and
invoke ctotal() to calculate total.
Showdata() Function to display all the data members on the screen.

- 2 Define a class batsman with the following specifications:
Private members:
bcode 4 digits code number
bname 20 characters
innings, notout, runs integer type
batavg it is calculated according to the formula –
 $\text{batavg} = \text{runs} / (\text{innings} - \text{notout})$
calcavg() Function to compute batavg
Public members:
readdata() Function to accept value from bcode, name, innings, notout
and invoke the function calcavg()
displaydata() Function to display the data members on the screen.

- 3 Define a class TEST in C++ with following description:
Private Members
TestCode of type integer
Description of type string
NoCandidate of type integer
CenterReqd (number of centers required) of type integer
A member function CALCNTR() to calculate and return the number of centers as
(NoCandidates/100+1)
Public Members

- A function SCHEDULE() to allow user to enter values for TestCode, Description, NoCandidate & call function CALCNTR() to calculate the number of Centres
- A function DISPTST() to allow user to view the content of all the data members

4 Define a class in C++ with following description:

Private Members

A data member Flight number of type integer

A data member Destination of type string

A data member Distance of type float

A data member Fuel of type float

A member function CALFUEL() to calculate the value of Fuel as per the following criteria

| Distance | Fuel |
|---------------------------|------|
| <=1000 | 500 |
| more than 1000 and <=2000 | 1100 |
| more than 2000 | 2200 |

Public Members

A function FEEDINFO() to allow user to enter values for Flight Number,

Destination, Distance & call function CALFUEL() to calculate the quantity of Fuel

A function SHOWINFO() to allow user to view the content of all the data members

5 Define a class BOOK with the following specifications :

Private members of the class BOOK are

BOOK NO integer type

BOOKTITLE 20 characters

PRICE float (price per copy)

TOTAL_COST() A function to calculate the total cost for N number of copies where N is passed to the function as argument.

Public members of the class BOOK are

INPUT() function to read BOOK_NO, BOOKTITLE, PRICE

PURCHASE() function to ask the user to input the number of copies to be purchased. It invokes TOTAL_COST() and prints the total cost to be paid by the user.

Note : You are also required to give detailed function definitions.

6 Define a class REPORT with the following specification:

Private members :

adno 4 digit admission number

name 20 characters

marks an array of 5 floating point values

average average marks obtained

GETAVG() a function to compute the average obtained in five subject

Public members:

READINFO() function to accept values for adno, name, marks. Invoke the
function GETAVG()
DISPLAYINFO() function to display all data members of report on the screen.
You should give function definitions.