

PATANJALI RISHIKUL, ALLAHABAD
PRACTICAL ASSIGNMENT #1
COMPUTER SCIENCE : C++

1. Define functions `stackpush ()` to insert and `stackpop ()` to delete element from the stack using array implementation.
2. Write code for a function `oddEven (int S[], int N)` in which C++, to add 5 in all the odd value and 10 in all the even values of all arrays S.
3. Write a function in C++, which accept an integer array and its size as arguments and swap the elements of every even location with to following odd location.
Initial array – 2, 4,1,6,5,7,9,23,10
Output array – 4, 2,6,1,5,7,23,9,10
4. Assume an array E containing elements of structure employee is requirements to be arranged in decending order of salary. Write C++ function to arrange the same with the help of bubble sort, the array and its size is required to be passed as parameters to the function. Definition & structure Employee is or follows:
 Eno – int
 Salary float
 Name – Char string
5. Write a DSOM () function in C++ to find sum of diagonal elements from NXM matrix.
6. Write a program which will finds out product of two matrix m x n and n x m.
Formula= $C_{ij} = C_{ij} + A_{ik} * B_{kj}$
7. Write a function to encode a string that is passed to it. The string should get converted into an unrecognizable from. [hint : you may change the ASCII code & the constitute characters by adding or subtracting a constant value from the original ASCII value of the constituent character.]
8. Given a binary file Games. dat, containing records of the following structure type.
 Struct game {
 char game name [20]
 char participant [10] [30];
 };
Write a function in C++ that would read contents from file games.dat and creater a file named Basket.dat copy only those records from Game.Dat where the game name is “Basketball”.
9. Give a binary file consumer.Dat, containing records of the following structure type.
 Class CONSUMER {
 Char c _ Name [20];
 Char c _ Address [30];
 Char Area [25];
 Char c _ phone _ No [15];
Public:
 Void Ledger ();
 Void Disp ();
 Int Check code (char AC [])
 {

```

return strcmp (Area, AC);
}

```

Write a function copy Area () in C++, that would copy only those records having Area as "SOUTH" from consumer.dat to BACKUP.DAT.

10. Write a function in C++ to count the number of digits present in a text file "PARA.TXT"
11. Write a C++ program to all read and display information about employee's and managers. Employee is a class that contains employee number, name, address and department.
Manager class contains all information of the employee class and a list of employee working under a manager.
12. Assume that a bank maintains two kinds of account for customers, one called as Savings account and other as Current Account. The Saving account provider compound interest and withdrawal facility but not cheque book facility. The current account provider cheque book facility but no interest. Current Account holders should also maintain minimum balance and if the balance falls below this level, a service charge is imposed. Create a class Account that stores customer name, account number and opening balance from this device the classes CURENT and SAVING make them more specific to their requirements. Including necessary member function in order to achieve the following tasks:
 1. Deposits an amount for customer and update Balance.
 2. Display the account details.
 3. Withdraw amount for a customer after checking the balance and update the Balance.
 4. Compute and deposits interest.
 5. Check for the minimum balance (for current A/c), impose penalty, is necessary, and update balance implement those with using any constructor.
13. Define a class clothing in C++ with the following description:

Private members:

```

Code - string
Type - string
Size - integer
Material - string
Price - float

```

A function calc _Price () write calculate and assign the value of G price as follows:
For the value of material as "COTTON"

Type	Price (Rs)
Trouser	1500
Shirt	1200

For material other than "COTTON" the above mention price gets reduced by 25%

Public Member:-

- A constructor to assign initial value of code, Type and material with the word "NOT AS-SIGNED" and size and price with 0.

- A function enter () to input the values of the data member code, Type, size & material and invoke the calc _ Price () function.
- A function Show () which display the content of all the data members for a clothing.

14. Define a class bus in C++ with the following description:

Data members:

Bus No -

From- to store place name of origive

To - To store place name of destination

Type - to store bus type such as 'O' for ordinary

Distance - to store the distance in K.M.

Fare - to store the bus fare.

Member function:-

- A constructor function to initialize type as 'O' and freight as 500
- A function calcfare () to calculate fare as per the following criteria:

<u>Type</u>	<u>Fare</u>
'O'	15* distance
'E'	30* distance
'L'	14* distance

- A function Allocate () to allow user to enter values for bus No., from, To, Type, and Distance. Also, this function should call cal fare () to calculate fare.
- A function Show () to display the content of all the data members an screen.