

JAVA ASSIGNMENTS:-

Assignment 1.

Create a java class that stores original num. and den. of a fraction. Then simplifies it to find num. and den. Of simplified fraction. The class should have following details.

Class name

RationalClass

Data member-

numerator- to store num. of the original fraction (Int type)

denominator- to store den. of the original fraction (Int type)

nr- to store num. of simplified fraction (Int)

dr- to store den. of simplified fraction (Int)

Methods

simplify()- simplifies the given fraction

gcd()- determines the gcd of two passed numbers

print()- print the fraction in original as well as simplified form

constructor- receives two parameters and initialize the num. and den.

Also write a main method that reads values for num. and den. and then prints the simplified fraction.

Assignment 2:-

Operation on complex number

Class name- Complex

Data Members-

real,img (float)

Methods:

complex()- Default constructor

complex(float,float)- parameterised constructor

void add(complex parameter, complex parameter)- add two complex number

void sum(complex parameter, complex parameter)- subtract two complex number

void mul(complex parameter, complex parameter)- multiplication of two complex number

void div(complex parameter, complex parameter)- subtraction two complex number

Assignment 3:-

Class- Ebill

Data member:

unit-number of unit consumption

name-name of customer

amt-amount to be calculated

Methods:

void input()- input name & number of unit consumption

void calculate()- calculate the amount using following condition

<u>UNIT</u>	<u>AMOUNT</u>
<=50	Rs.100
next 50 unit	Rs. 1.5/unit
next 50 unit	Rs. 2/unit
next 50 unit	Rs. 2.5/unit
next 50 unit	Rs. 3/unit

Create a main() method and calculate for n number of customer.

Assignment 4.

Class name : Arr

Data member:

int a[]- store list of numbers

int n[]- size of lists

Methods:

input()- input an array of size n

findmax()-find the maximum element & its position

findmin()-find the minimum element & its position

countprime()-count prime numbers

bsort()-apply bubble sort

bsearch(int iteam)-perform binary search

Assignment 5.

A class TelCall calculates the monthly phone bill of a consumer. Some of the members of the class are given below.

Class name-

TelCall

Data member-

Phno- Phone no.

Name- name of the consumer

N- no. of calls made

Amt- bill amount

Methods-

Void compute()- to calculate the phone bill amount based on the slabs given below.

No. of calls	Rate (Rs.)
1-100	500/- :: Rental
101-200	Rs. 1/call + Rental
201-300	Rs 1.20/call + Rental
above 300	Rs. 1.50/call + Rental

[the calculations need to be done as per the slabs]

Void dispdata()- to display the details in specified format

constructor- to assign values to data members.

Specify the class TelCall giving the details of the constructor, void compute() and void dispdata().

Assignment 6.

Chain is an entity which can hold atmost 50 integers. The chain enables the user to add and remove integers from both the ends I.e. front and rear. Define a class chain with the following details.

Class name-

Chain

Data member-

ele[]- the array to hold the integer elements.

cap- stores the maximum capacity of the array

front- to point the index of the front

rear- to point the index of the rear

Member methods-

Chain(int max)- constructor to initialize the data cap=max,

front=-1, rear=-1 and to create the integer array.

void pushfront(int v)-to add integers from the front index if possible.

Else display the message Full from front.

int popfront()- to remove the return element from front. If array is empty then return -999.

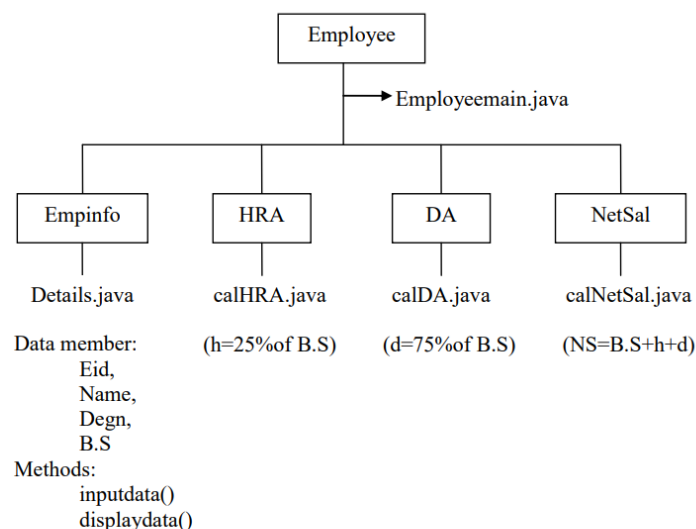
void pushrear(int v)- to add integers from the rear index if possible.

Else display the message Full from rear.

int poprear()- to remove the return element from rear. If array is empty then return -999.

Write a main function to implement the Deque concept.

Assignment 7.



In the above package program, generate your own exception if B.S<0 and also if designation is not entered among the following-

- i) Clerk
- ii) Manager
- iii) Salesman
- iv) Peon

Assignment 8.

Write a java program to implement the following class.

Class name:

Str

Data members:

(as per your choice).

Methods:

input(): input a string.

countVowel(): count number of vowel present in it.

checkPalin(): check the input string is palindrome or not.

countFrequency(): count the frequency of each character.

replace(): replace vowel by #.

Assignment 9.

Write a program to create a calculator using Swing.