Oop Assignment-2

classmate

Problem Salement Develop a program in (It to create a database of student's Information system containing the following information: mame, coll number, class, division, date of birth, blood group, contact address, telephone number, driving lecence number & other Construct the database with suitable member functions. Make we of constructor, default constructor, copy constructor destruter, static member functions, friend class, this pointer infine code & dynamic memory allocation operators-news delete as well as exception handling

objectives To leave concept of constructors copy constructor, copy destructor, static member functions, Friend class, this pointer, inline code & dynamic memory allocation operators- new & delete.

Outcomes Implement ctt personal information handling system using various oop concepts.

Hardware requirements; Manufactures & model: Aver Swiff 3 ("Intel 15 8th gen) anyalled Memory: 84B RAM, 012 GB SSD. Architecture 64-bis

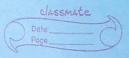
Soffware regure enrent: operating system: Windows . 10 house Single language dole: vode blocks version 20.03 Compiler: 9H (versia 10.1.0)

Theory. Constructor: A special method of class that will automatically

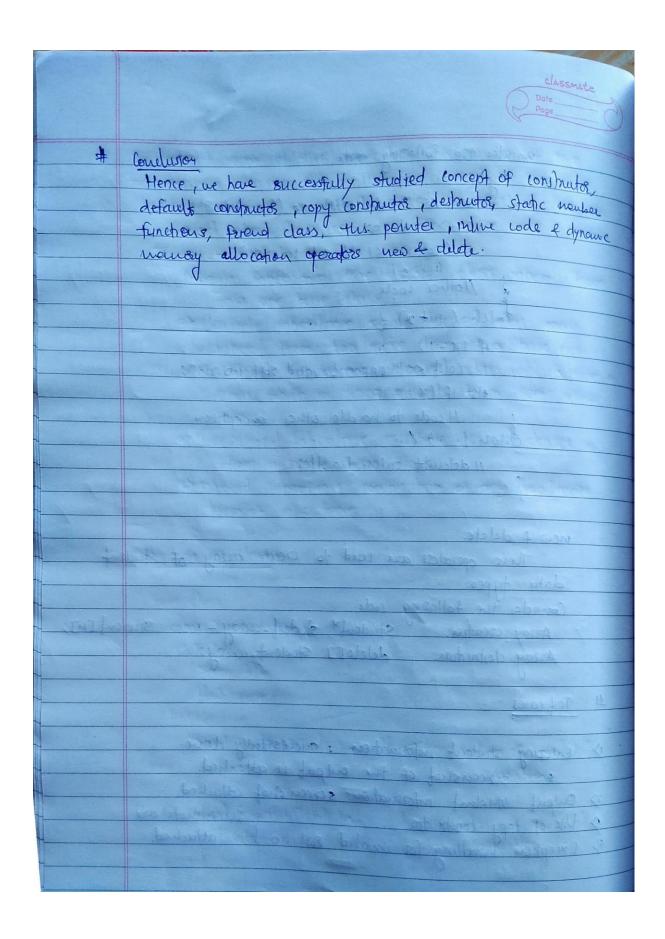


invoked when an instance of class is created types: refault constructor: no arguments & automatically called, > Parametered constructos: some arguments a lopy constructor: object of another dass as argument. permutor: Resputor is called when object is destroyed, Useally wed to release allocated memory for that particular object. Static Members: They have only angle copy areass all instances of a particular class. friends function: They can arress private data numbers of the day Friend classes. They can allers private data moupers of the class This pointer pointer pointing to the calling object. dynamically on heap section of release that allocated hency affer use Surface of classes I clas personal Info & private: Azing blood group, driving licence 20; string DOB, address: my telephone wo: public: poored getData() (// gets data, from user. 11 code Mine void showData() 2 11 FM shows data of instance t 11 cocle Friend class student

2> class Student private: static int cnt; // static vaciable to count all students string name, class; In soll-no, du Personal Info personal Info; public: Student () of 11 contratos. cuft; for the star of a set part sections and student (+5) A / copy constructor papago-osopanu ed 11 code . Static inf get Student Cuf () of 1/ return total students in dajabasi. - 11 code Void get Data () of // Method to get the data of // code student from user. inline void show Data () of Method to show data of 1/ code Student ~ Students) of // Destructor 5 cm -- ; pseudo codes & use of concepts. exception handing: It is used in the methods which takes class from the user.



consider the following codes count << 4 Futer 2011 no (b/w 1 to 86) 1 4; cm>> 2011-no; If (2011-10 <1 // 2011-10 >86) Mother wode Eatch (int 2) of 1f (x ==1) coup << " Eppox: Invalid 8011. no. \n"; else if (x ==2) I code to hardle other exceptions catch (...) 11 default cater hardler new & delete: This operators are used to create array of student data types: Consider the following code: Array creation: Student & student - array = new Student [11]; Array despution: delete [] student array; Test cases Entering student information: successfully done. · screenshof of the output is attached. 3) Output strolong information: screen shop attached. Use of copy constructor creewhots are Exception handling for invalid 811 no J attached,



Input and Output Demo:

Entering Student Information:

```
Enter data for student number: 1
Enter roll number (between 1 to 86): 18
Enter name: Shubham Chemate
Enter class (class should be FE, SE, TE, BE): SE
Enter div (div should be in 1 to 11): 1
Enter Personal Info:
Enter DOB (DD/MM/YYYY): 20/09/2020
Enter blood group: A+
Enter Address: xyz Road, Parner, A.Nagar - 414103
Enter Driving Licence Number: asdf1234
Enter Telephone Number: 1234567890
Student number 1 is created successfully.
```

Output (Student Information):

```
Student Info for roll number : 18
Name : Shubham Chemate
Class : SE, Div : 1
Date of Birth (DD/MM/YYYY) : 20/09/2020
Blood Group : A+
Address : xyz Road, Parner, A.Nagar - 414103
Driving Licence Number : asdf1234
Telephone Number : 1234567890
```

Output (Student Information – through copy constructor (Copies data of first student)):

```
=======Copy Constructor (Used for copying data of 1st Student)========
Student Info for roll number : 18
Name : Shubham Chemate
Class : SE, Div : 1
Date of Birth (DD/MM/YYYY) : 20/09/2020
Blood Group : A+
Address : xyz Road, Parner, A.Nagar - 414103
Driving Licence Number : asdf1234
Telephone Number : 1234567890
```

Exception Handling (For invalid roll number):

```
For how many students do you want to create database?? 1
Enter data for student number : 1
Enter roll number (between 1 to 86) : 0
ERROR: Invalid Roll Number. It should be between (1 and 86)
```