JA 111 C4 Evaluation

Q1) Write a Program to accept the Date of birth of a user in dd-MM-yyyy format, checkout that the user is eligible to cast his vote or not (i.e. age should be ≥ 18) if the supplied date is in future then should print: ”Date of birth should not be in future” and if the user-supplied date is in the wrong format then print the proper message: "please pass the date in the proper format”
Otherwise, it should print: “You are eligible to cast your vote”
Note: If the current date is the user’s birthday then print the message as:
Happy Birthday, You are eligible to cast your vote.

Q2) The district central library needs an application to store book details of their library. The clerk has all the rights to add a new book, search for any book, display the book details and should update the count of the total number of books.

Create a Bean class Book with the following attributes:
int isbn
String bookName
String author

Create a class Library that will have instance variable:
List<Books> bookList = new ArrayList<>();
Include the following public methods:
1. void addBook(Book book): This method should add the book object to the booklist.
2. boolean isEmpty(): This method should return true if the booklist is empty else return false.
3. List<Book> viewAllBooks(): This method should return the list of books maintained in the library.
4. List<Book> viewBooksByAuthor(String author) - This method should return a list of books written by the author passed as an argument. When you display an empty list it should print the message "The list is empty".
5. int countNoOfBook(String bookName) - this method should return the count of books with the name passed as an argument.

Write a Main class with a main method to test the above functionalities.

Sample Input 1:
1.Add Book
2.Display all book details
3.Search Book by author
4.Count number of books - by book name
5.Exit
Enter your choice:
1
Enter the isbn no:
123
Enter the book name:
Java
Enter the author name:
Bruce Eckel
Output:
Book added successfully

Sample Input 2:
1.Add Book
2.Display all book details
3.Search Book by author
4.Count number of books - by book name
5.Exit
Enter your choice:
1
Enter the isbn no:
124
Enter the book name:
C++
Enter the author name:
Eric Nagler
Output:
Book added successfully

Sample Input 3:
1.Add Book
2.Display all book details
3.Search Book by author
4.Count number of books - by book name
5.Exit
Enter your choice:
3
Enter the author name:
Henry
Output:
None of the book published by the author Henry

Sample Input 4:
1.Add Book
2.Display all book details
3.Search Book by author
4.Count number of books - by book name
5.Exit
Enter your choice:
3
Enter the author name:
Eric Nagler
Output:
ISBN no: 124
Book name: C++
Author name: Eric Nagler

Sample Input 4:
1.Add Book
2.Display all book details
3.Search Book by author
4.Count number of books - by book name
5.Exit
Enter your choice:
5
Output:
Thank You..!!

Q3)

1. What is the difference between Checked and Unchecked Exceptions in Java, create a user-defined checked and unchecked exception class?
2. What is the difference between the throw and throws keyword in Java?

Q4)Create a product class which has following fields -

-name : String
-price : double
-company : String
-count : int

Note : Override the toString method.

Create a class Ecommerce with the following fields-

-List<Product> productList=new ArrayList<>();
-addProductToList(Product product) : void
-showAllProduct():List<Product>

Write a Main class with a main method to test the following functionalities.

- If the product already exists in the list then update the count of the product else add it to the list.

Main method-

```
public static void main(String[] args) {
   Ecommerce ecommerce=new Ecommerce();
   ecommerce.addProduct(new Product("Shoes",2000,"Adidas",12));
   ecommerce.addProduct(new Product("Ipad",100000,"Apple",2));
   ecommerce.addProduct(new Product("Ipad",100000,"Apple",4));
   ecommerce.addProduct(new Product("Shoes",4000,"Nike",4));
   ecommerce.addProduct(new Product("Shoes",2000,"Adidas",8));
   System.out.println(ecommerce.showAllProduct());

}
```

Sample output-

```
Product added successfully
Product added successfully
Count updated Product already exists
Product added successfully
Count updated Product already exists

[Product{name='Shoes', price=2000, company='Adidas', count=20}, Product{name='Ipad', price=100000,
company='Apple', count=6}, Product{name='Shoes', price=4000, company='Nike', count=4}]
```