Que 1> 10 marks – Easy (If else, switch, loops arrays, collections etc.)

1.Write a java program that will contain two arrays. In the first array store the following products.

* 1. Chips
  2. Apples
  3. Mangoes
  4. Flakes
  5. Pens

And store the following prices in the second array:

1. 10
2. 10
3. 55
4. 125
5. 10

Write a method that will display the products with their corresponding prices.

See your Assignment

2.Write a program to accept marks for n subjects. Ask user how many subjects marks he wants to enter Using array find Average and display the Grades.

Use following criteria for Grades.

1. marks >= 80 Grade is 'First Class'

2. marks >=60 Grade is 'Second Class'

3. marks >=40 Grade is 'Pass '

4. marks <40 Grade is 'Fail'

3.[Write a java program to input basic salary of an employee and calculate its Gross salary according to following:](https://codeforwin.org/2015/05/c-program-to-calculate-gross-salary-of-employee.html)

Basic Salary <= 10000 : HRA = 20%, DA = 80%  
Basic Salary <= 20000 : HRA = 25%, DA = 90%  
Basic Salary > 20000 : HRA = 30%, DA = 90%

Marks Distribution:

3 marks – creating, initializing array, user inputs

3 marks – performing operations on those arrays , if else or loops working

4 marks - proper output, naming conventions used and logic applied in code.

Handling validations , exception etc, comments

Modular approach

Que 2> 10 marks (Medium) collections and multithreading

See your assignments

4.Write a program that allows Shop manager to add 3 mobile model names in a list.eg. Galaxy Note 8, iPhone 8 Plus, Vivo y38 etc.

Ask user to enter any Mobile Model Name. Search in a above list. If present display "Yes, Model is Available, would you like to buy?" If not then display

" Sorry, Model is not available ".

Shop keeper orders this unavailable Model, so allow him to add above

Add the new Model Name in a List. Display the final List.

5.Write a program that allows HR manager to add 3 new employee Designations namely ‘System Analyst’, ‘Technical Support’, ’Software Developer’. Ask him to enter these Designations.

Display the list.

Company decides to rename ‘Technical Support’ designation to ‘Customer Relationship manager’. Perform this operation and Display the modified List.

See your demo program of multithreading :

6.Ask user to enter 2 places he wants to visit. Create 2 threads where thread names is assigned as places. i.e Thread 1 as ‘Mumbai’ Thread 2 as ‘Pune’.

When user starts both the threads, allow him to visit thread 1 to run for 20 times, let thread get completed and then other Thread should start running 20 times.

7.Design an application to create a multithreaded program implementing Runnable. The functionalities need to be implemented are:

i) Create MyTask class which implements Runnable and overrides run() method.

ii) in run method T1 (thread1) will display company logo for LTI and (thread2) will display logo for Capgemini.

iii) Create a class Client with main method and create two thread and start them.

Note: second thread should start only when first thread has completed the task.

Or

Note : both logo should be displayed randomly.

See JoinDemo.java program

8.Design an application to create a multithreaded program implementing Runnable. The functionalities need to be implemented are:

i) Create MyTask class which implements Runnable and overrides run() method.

ii) in run method T1 (thread1) will print numbers from 1to 51 and T2 (thread2) will print numbers from 51to 100.

iii) Create a class Client with main method and create two thread and start them.

Note: second thread should start only when first thread has completed the task.

Marks Distribution:

**3marks** – creating thread (either using thread class or implementing runnable)

**3 marks** – applying task to perform, working of thread in run method

**4 mark** – getting proper output, naming conventions used , **validations and exceptions used in program**

Que 3> 10 marks (difficult) oops, collections, File handling with Serialization

**See your assignment:**

9. Design an application to accept multiple employee details and store all employee objects in a ArrayList. The functionalities need to be implemented are:

i) Create Employee class will have empId, empName and salary

ii) Create a class EmploeeClient with main method and Add employee details to ArrayList.

iii) Sort the employee details based on salary and display it in the main method.

Note: Use generics and Comparable/comparator interface.

10.Design an application to accept multiple employee details and persist the employee object in a file emp.dat. The functionalities need to be implemented are:

i) Create Employee class will have empId, empName and Salary.

ii) Create a class EmployeeClient with main method and accept employee details from user using scanner and create Employee object.

iii) Now write the code to persist the employee object in the file emp.dat

iv) Now write the code to read the persisted employee object from the file emp.dat

Note: Use Object Serialization

Marks Distribution:

**3 marks** – entity/ class design , user input

**3 marks** –logic applied, working of code .

**4marks** - required output, validations or exceptions handled.

For Collection assignments:

<https://www.w3resource.com/java-exercises/>

https://www.w3resource.com/java-exercises/collection/index.php#arraylist