

1- Create a management system for an athletic club organizing a marathon in java using oop concepts , which will track runners and announce the results and sponsorship donations. Each runner in the marathon has a number. A runner is described as e.g. "Runner 42" where 42 is their number. They finish the race at a specified time recorded in hours, minutes and seconds. Their result status can be checked and will be displayed as either "Not finished" or "Finished in hh:mm:ss" (All zero for hh mm and ss means Not finished). Every competitor is either a professional runner or an amateur runner. Further to the above, a professional additionally has a world ranking and is described as e.g. "Runner 174 (Ranking 17)". All amateurs are fund raising for a charity so each additionally has a sponsorship form. A sponsorship form has the number of sponsors, a list of the sponsors, and a list of amounts sponsored. A sponsor and amount can be added, and a list can be printed showing the sponsors and sponsorship amounts and the total raised. A fancy dress runner is a kind of amateur (with sponsorship etc.) who also has a costume, and is described as e.g. "Runner 316 (Duck)". (Use oop concepts wherever possible like fancy dress runner inherits armature runner ,sponsor is a different class and armature runner has many object of class sponsors in it. Always create separate class with attributes and inherit).

Sample input :

1- Add Runner details
2- Display runner details.
3- Exit
Enter choice - 1

Type of Runner
1-Professional
2-Armature
3-Fancy dress runner
Enter choice 1

Enter runner details(Number ranking and finish time in hh:mm:ss format)

10 127 5:30:20

1- Add Runner details.
2- Display runner details.
Enter choice - 1

Type of Runner
1-Professional
2-Armature
3-Fancy dress runner
Enter choice 2

Enter runner details(Number,finish time in hh:mm:ss format)

11 8:20:20

Enter number of sponsors 2
Enter sponsorship details (Name of sponsor and amount)
google 10000
amazon 20000

1- Add Runner details.
2- Display runner details.
3- Exit
Enter choice - 1

Type of Runner
1-Professional
2-Armature
3-Fancy dress runner
Enter choice 3

Enter runner details(Number costume and finish time in hh:mm:ss format)

12 duck 0:0:0

Enter number of sponsors 1
Enter sponsorship details (Name of sponsor and amount)
yahoo 10000

1- Add Runner details.
2- Display runner details.
3- Exit
Enter choice - 2

Runner 10(Ranking 127) Finished in 5:30:20 .
Runner 11 sponsors google - 10000 , amazon- 20000 Total 30000 Finished in 8:20:20 .
Runner 12(Duck) sponsors yahoo 10000 Total 10000 Not finished.

1- Add Runner details.
2- Display runner details.
3- Exit
Enter choice – 3

2- Define a class Bus in java with the following specifications:

Data Members

- Busno - to store Bus No
- From - to store Place name of origin
- To - to store Place name of destination
- Distance - to store the Distance in Kilometers
- Type – to store Bus Type such as 'O' for ordinary (O , E , L use enum).
- Fare –to store the Bus Fare

Member Functions

- A constructor function to initialize all data members. Use 'O' as type if nothing is specified for type(Create two constructors with different number of arguments)
- A function CalcFare() to calculate Fare as per the following criteria:
Type Fare
'O' 10*Distance
'E' 20*Distance
'L' 24*Distance
- A function Show() to display the content of all the data members on screen

Sample input :

1-Add details
2-Show details
3-Exit
Enter choice 1
Enter bus details(Busno,from,to,distance,type)

120 kannur calicut 500 E

1-Add details
2-Show bus details
3-Exit

Enter choice 1
Enter bus details(Busno,from,to,distance,type)

123 palayam kovalam 1400

1-Add details
2-Show details
3-Exit
Enter choice 2

120 kannur calicut 500 E 10000
123 palayam kovalam 1400 O 14000

1-Add details
2-Show details
3-Exit
Enter choice 3

3- Create java program to print the salary of Security and HOD in words using object oriented concepts. Employee is a person(name,age) with additional properties emp_id, salary_per_day,salary and No_of_days_present. Security is an employee with additional property Shift(can have only two values “Day” or “Night”. Use enum to save shift details). Teacher is an employee with Branch and specialization. HOD is a teacher with additional attribute number_of_Teachers_working_under and number_of_guideship. Create an interface salaryFinder() with a function findSalary(). Implement the findSalary() function in both Security and HOD class, where the salary is salary_per_day *No_of_days_present and display the name and salary in words (Maximum salary will be less than 1 lakh) (Refer sample input for more details).

Sample input :

1- Inser HOD details
2- Insert security details
3- Display HOD details
4- Display Security details
5 – Exit
Enter choice 1

Enter details of HOD (name , age, emp_id, salary_per_day, No_of_days_present, specialization , department, number_of_Teachers_working_under, number_of_guideship)

Suresh 30 1023 2000 30 networking cse 20 15

- 1- Insert HOD details
 - 2- Insert security details
 - 3- Display HOD details
 - 4- Display Security details
 - 5 – Exit
- Enter choice 2

Enter details of Security (name , age, emp_id, salary_per_day, No_of_days_present, shift)

Raju 35 7823 500 25 Day

- 1- Insert HOD details
 - 2- Insert security details
 - 3- Display HOD details
 - 4- Display Security details
 - 5 – Exit
- Enter choice 3

Suresh 60000 sixty thousand

- 1- Insert HOD details
 - 2- Insert security details
 - 3- Display HOD details
 - 4 Display Security details
 - 5– Exit
- Enter choice 4

Raju 12500 Twelve thousand five hundred

- 1- Insert HOD details
 - 2- Insert security details
 - 3- Display HOD details
 - 4 Display Security details
 - 5– Exit
- Enter choice 5