

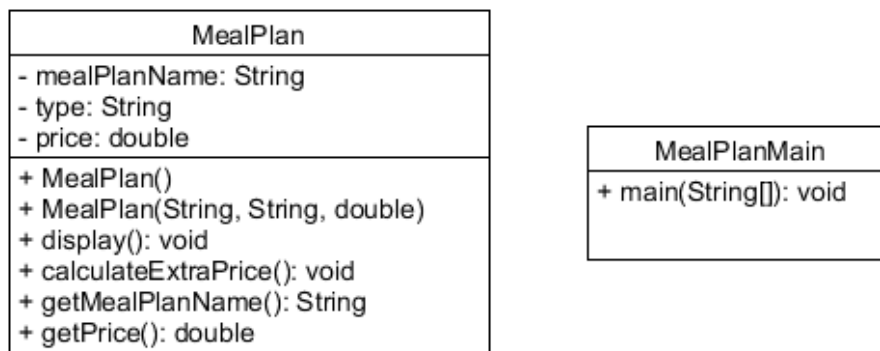
**OBJECTIVES :** Classes, Constructors, Visibility Modifiers

**Instructor :** Leyle SEZER

**Assistants :** Efe Mert ŞAHİNKÖÇ, Engin Zafer KIRAÇBEDEL

**Q1.** Create the following class “**MealPlan**” with the given data members and member methods.

- No-arg constructor assigns the data members to the given values;
  - mealPlanName = "No Meal Plan Name";
  - type = "No type";
  - price = 0;
- getters for price and mealPlanName.
- **display()** member method, displays the objects’ contents as in the example run.
- **calculateExtraPrice()** member method, calculates the extra price according to the type. If type is A/a (alternative menu) then adds 50 TL to the price for each meal in the plan (there are 30 meals in Monthly Plan, and 150 meals in Semester Plan). If the type is F/f (fixed menu) no additional cost applies.



Create another class as “**MealPlanMain**”; in main method it creates 3 Meal Plan objects from the **MealPlan** class, one with no-arg constructor, others with the given values below, and then displays the contents of objects. The program calculates the new price by invoking **calculateExtraPrice()** method and shows the new price values as in the example run.

- MealPlan2;
  - Meal Plan Name = Monthly Plan
  - Type = A
  - Price = 2500
- MealPlan3;
  - Meal Plan = Semester Plan
  - Type = F
  - Price = 10000

**Output:**

Meal Plan  
Meal Plan Name= No Meal Plan Name  
Type= No Type  
Price= 0.0 TL

Meal Plan  
Meal Plan Name= Monthly Plan  
Type= A  
Price= 2500.0 TL

Meal Plan  
Meal Plan Name= Semester Plan  
Type= F  
Price= 10000.0 TL

Price of meal plans after adding extra prices - if any:  
 Monthly Plan costs 4000.0 TL  
 Semester Plan costs 10000.0 TL

**Q2.** Create the following class “**MovieTicket**” with the given data members and member methods.

- **No-arg** constructor assigns the data members to the given values;
  - movie = "No Movie Name";
  - customername = "No Customer Name";
  - customerAge = 0;
  - seatNb = 0;
  - showTime = "No Show Time";
  - price = 0;
- getters for the movieName, customerName, seatNb and price.
- **toString()** method to display the content of the object.
- **calculateDiscountedPrice()** member method, calculates the discounted price according to the customer age. If customer is older than 60 then s/he will get 30% discount. If the customer is younger than 8 then s/he will get 75% discount.
- **calculate3DPrice()** member method, that calculates if there is a bonus discount or not, according to whether the movie is 3D or not. If the movie is 3D, adds 80 TL to the movie price.

MovieTicket
- movieName: String - customerName: String - customerAge: int - seatNb: int - showTime: String - is3D: boolean - price: double
+ MovieTicket() + MovieTicket(String, String, int, int, String, boolean, double) + toString(): String + calculateDiscountedPrice(): void + calculate3DPrice(): void + getMovieName(): String + getCustomerName(): String + getSeatNb(): int + getPrice(): double

MovieTicketMain
+ main(String[]): void

Create another class as “**MovieTicketMain**”; in main method it creates 3 **MovieTicket** objects from the **MovieTicket** class, one with **no-arg** constructor, others with the given values below, and then displays the contents of objects. The program calculates the discounted price by invoking **calculateDiscountedPrice()** method. Then, it invokes **calculate3DPrice()** method for the last two objects and shows the new price values as in the example run.

- **MovieTicket2;**
  - Movie Name= Shrek 8
  - Customer Name= Selim Deniz
  - Customer Age= 7
  - Seat Number= 26
  - Show Time= 10.30
  - 3D=false
  - Price= 180
- **MovieTicket 3;**
  - Movie Name= Subway Surfers The Movie
  - Customer Name= Celal Şengör
  - Customer Age= 68
  - Seat Number= 10
  - Show Time= 8.30
  - 3D=true
  - Price= 200

**Output:**

Movie Ticket  
Movie Name= No Movie Name  
Customer Name= No Movie Name  
Customer Age= 0  
Seat Number= 0  
Show Time= No Show Time  
3D= false  
Price= 0.0 TL

Movie Ticket  
Movie Name= Shrek 8  
Customer Name= Selim Deniz  
Customer Age= 7  
Seat Number= 26  
Show Time= 10.30  
3D= false  
Price= 180.0 TL

Movie Ticket  
Movie Name= Subway Surfers The Movie  
Customer Name= Celal Şengör  
Customer Age= 68  
Seat Number= 10  
Show Time= 8.30  
3D= true  
Price= 200.0 TL

Price of the movie tickets after updates - if any:  
Selim Deniz should pay 45.0 TL for Shrek 8  
Celal Şengör should pay 220.0 TL for Subway Surfers The Movie