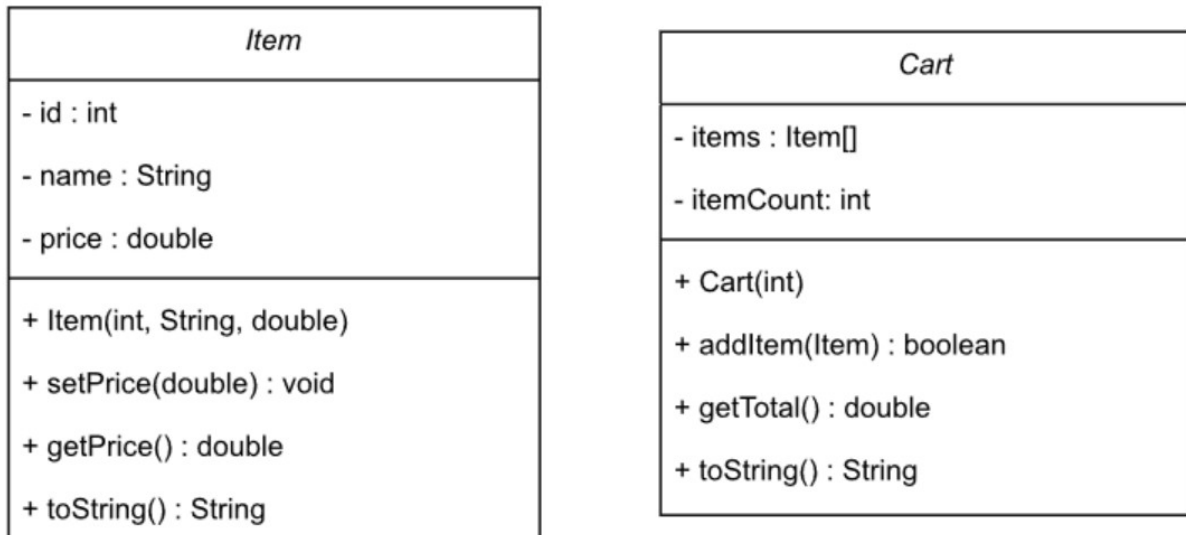


We want to write a program that manages online-store carts using the following UML diagram:



### Class **Item**:

- Instance Attributes:
  - ***id***: the ID number for the item
  - ***name***: the name of the item
  - ***price***: the price of the item in SAR
- Methods:
  - ***Item(id:int, name:String, price:double)***: constructor
  - ***setPrice(price:double)***: assigns the value of ***price***. Must be positive, otherwise set to 100
  - ***getPrice()***: returns the value of ***price***
  - ***toString()***: returns a string representation of the item in the following format:
    - **Item ID: *id*, Name: *name*, Price: *price*SAR**

**Class Cart:**

- Instance Attributes:
  - *items*: array of Item objects
  - *itemCount*: number of Item objects in *items*
  
- Methods:
  - *Cart(size:int)*: constructor that receives the size of *items*
  - *addItem(it:Item)*: adds *it* to the end of *items* array if there's space and returns true. Otherwise, returns false.
  - *getTotal()*: returns the total price of all item objects in *items*
  - *toString()*: returns a string representation of the cart in the following format:
    - **Cart (itemCount):**
      - Item ID: *id*, Name: *name*, Price: *price*SAR
      - Item ID: *id*, Name: *name*, Price: *price*SAR
      - ...
      - -----

**Exercise 1:** Write classes **Item & Cart**

**Exercise 2:** Write class **CartTest** that has a main method to test the functionalities of classes **Item & Cart**:

- Create a cart of size 20
- Create three items (see sample run)
- Add those items to the cart
- Print the cart and its total
- Modify the price of one of the items
- Print the cart and its total

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**Sample run:**

```
Cart (3):
```

```
Item ID: 1, Name: Water, Price: 15.5SAR
```

```
Item ID: 5, Name: Sugar, Price: 19.95SAR
```

```
Item ID: 8, Name: Rice, Price: 40.0SAR
```

```
-----
```

```
Total: 75.45SAR
```

```
Cart (3):
```

```
Item ID: 1, Name: Water, Price: 15.5SAR
```

```
Item ID: 5, Name: Sugar, Price: 19.95SAR
```

```
Item ID: 8, Name: Rice, Price: 35.0SAR
```

```
-----
```

```
Total: 70.45SAR
```