Investor class

Displays bond values: sum of discounted payments, using inflation rate r:
getValue(double inflationRate, int numberOfYears, double sum) :double
double rate
value = sum /(1+ inflationRate)^numberOfYears
return rate

System calculates and shows its Macaulay duration for rate r:
getDuration(): double or time
double or time duration
duration =for sum of payments calculate payment.time multiplied by coupon /
(1+r)^payment.time + term*100/(1+r)^term) /value
return duration

Returns duration
getDuration(): time
return duration

Returns payout
getPayout(): double
double result = payments->collect(amount)->sum()
return result

Investor can purchase bonds which are added into a list
purchase(Bond bond): void
add bond to investors array list

Returns all bonds held by an investor
getBondsOwnded():Bond[]
return bond array

Bond class

Constructor
Bond(int term, double coupon, int frequencyOfPayment, date purchaseDate, string name,
double price):void
this.term = term, this.coupon =coupon, this.frequencyOfPayment = frequencyOfPayment,
this.purchaseDate = purchaseDate, this.name = name, this.price =price

System calculates and shows its Macaulay duration for rate r:
getDuration():time
time duration
duration =for sum of payments calculate payment.time multiplied by coupon /
(1+r)^payment.time + term*100/(1+r)^term) /value
return duration

Returns internal rate of return
getInternalRateOfReduction():double
double price
price = for the sum of payments calculate coupon/(1+r)^term
return price

Returns payout
getPayout(): double
double result = payments->collect(amount)->sum()
return result

The date the bond was bought by an investor
setDate(Date date) :void

Displays bond values: sum of discounted payments, using inflation rate r:
getValue(double inflationRate, int numberOfYears, double sum) :double
double rate
value = sum /(1+ inflationRate)^numberOfYears
return rate