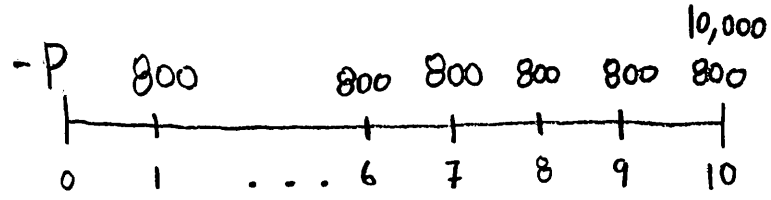
Solution #010

Given: $F = 10{,}000$

$r = 8\%$ annual

$n = 10$ years

$i = 6\%$ annual effective



Coupon $= Fr = (10{,}000)(.08) = 800$

Bond purchased at a premium $\Rightarrow$ Price $> 10{,}000$ face amt

Can confirm this since coupon rate > interest rate $8\% > 6\%$

$$\text{Price}_0 = \underbrace{800\, a_{\overline{10}|.06}}_{\text{coupon portion}} + \underbrace{10{,}000\, v^{10}}_{\text{redemption amt}} = 5888.07 + 5583.95$$

$$= \underline{\underline{11{,}472.02}} > 10{,}000.$$

Want interest portion of the 7^{th} coupon

7^{th} coupon payment received at time 7 $\quad I_t = i \times BV_{t-1}$

$i = .06$ $\quad BV_6 =$ PV at time 6 of future cash inflows

$$= 800\, a_{\overline{4}|.06} + 10{,}000\, v^4$$

$$= 7{,}920.94 + 2{,}772.08$$

$$= 10{,}693$$

$$\Rightarrow I_7 = i \times BV_6 = (10{,}693)(.06)$$

$$= 641.58$$

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