#==PROBLEM SET====Set 213017(small), check [434, 892, 740]============

#--Problem 1---------------------------------------------------------

v0 = [ , ]ᵀ

‖v0‖ ≡ √( v0·v0 ) = √( \_\_\_×\_\_\_, \_\_\_×\_\_\_ )

= √( \_\_\_\_\_ + \_\_\_\_\_ ) = √( \_\_\_\_\_\_ ) = \_\_\_\_\_\_\_

hat(v0) ≡ v0/‖v0‖ = [ \_\_\_, \_\_\_ ]ᵀ/\_\_\_\_\_\_\_

= [ \_\_\_\_\_\_\_, \_\_\_\_\_\_\_ ]ᵀ

⊥ v0 = ⊥ [ \_\_\_, \_\_\_ ]ᵀ = [ \_\_\_, \_\_\_ ]ᵀ

‖⊥ v0‖ ≡ √( ⊥ v0·⊥ v0 ) = √( \_\_\_×\_\_\_, \_\_\_×\_\_\_ )

= √( \_\_\_\_\_ + \_\_\_\_\_ ) = √( \_\_\_\_\_\_ ) = \_\_\_\_\_\_\_

hat(⊥ v0) ≡ ⊥ v0/‖⊥ v0‖ = [ \_\_\_, \_\_\_ ]ᵀ/\_\_\_\_\_\_\_

= [ \_\_\_\_\_\_\_, \_\_\_\_\_\_\_ ]ᵀ

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v1 = [ , ]ᵀ

‖v1‖ ≡ √( v1·v1 ) = √( \_\_\_×\_\_\_, \_\_\_×\_\_\_ )

= √( \_\_\_\_\_ + \_\_\_\_\_ ) = √( \_\_\_\_\_\_ ) = \_\_\_\_\_\_\_

hat(v1) ≡ v1/‖v1‖ = [ \_\_\_, \_\_\_ ]ᵀ/\_\_\_\_\_\_\_

= [ \_\_\_\_\_\_\_, \_\_\_\_\_\_\_ ]ᵀ

⊥ v1 = ⊥ [ \_\_\_, \_\_\_ ]ᵀ = [ \_\_\_, \_\_\_ ]ᵀ

‖⊥ v1‖ ≡ √( ⊥ v1·⊥ v1 ) = √( \_\_\_×\_\_\_, \_\_\_×\_\_\_ )

= √( \_\_\_\_\_ + \_\_\_\_\_ ) = √( \_\_\_\_\_\_ ) = \_\_\_\_\_\_\_

hat(⊥ v1) ≡ ⊥ v1/‖⊥ v1‖ = [ \_\_\_, \_\_\_ ]ᵀ/\_\_\_\_\_\_\_

= [ \_\_\_\_\_\_\_, \_\_\_\_\_\_\_ ]ᵀ

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v0·v1 ≡ [ \_\_\_, \_\_\_ ]ᵀ · [ \_\_\_, \_\_\_ ]ᵀ

= \_\_\_×\_\_\_ + \_\_\_×\_\_\_

= \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_\_

cos θ ≡ (v0·v1)/(‖v0‖×‖v1‖) = \_\_\_\_\_\_/(\_\_\_\_\_\_\_×\_\_\_\_\_\_\_)

= \_\_\_\_\_\_/\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_

θ = arccos( \_\_\_\_\_\_\_\_\_ ) = \_\_\_\_\_\_\_ rad or \_\_\_\_\_\_\_°

‖v0 → v1‖ ≡ ‖v0‖ cos θ = \_\_\_\_\_\_\_×\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_

v0 → v1 ≡ ‖v0 → v1‖ hat(v1)

= \_\_\_\_\_\_\_×[ \_\_\_\_\_\_\_, \_\_\_\_\_\_\_ ]ᵀ

= [ \_\_\_\_\_\_\_, \_\_\_\_\_\_\_ ]ᵀ

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v0·⊥ v1 ≡ [ \_\_\_, \_\_\_ ]ᵀ · [ \_\_\_, \_\_\_ ]ᵀ

= \_\_\_×\_\_\_ + \_\_\_×\_\_\_

= \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_\_

cos ⊥ θ ≡ (v0·⊥ v1)/(‖v0‖×‖⊥ v1‖) = \_\_\_\_\_\_/(\_\_\_\_\_\_\_×\_\_\_\_\_\_\_)

= \_\_\_\_\_\_/\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_

⊥ θ = arccos( \_\_\_\_\_\_\_\_\_ ) = \_\_\_\_\_\_\_ rad or \_\_\_\_\_\_\_°

‖v0 → ⊥ v1‖ ≡ ‖v0‖ cos ⊥ θ = \_\_\_\_\_\_\_×\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_

v0 → ⊥ v1 ≡ ‖v0 → ⊥ v1‖ hat(⊥ v1)

= \_\_\_\_\_\_\_×[ \_\_\_\_\_\_\_, \_\_\_\_\_\_\_ ]ᵀ

= [ \_\_\_\_\_\_\_, \_\_\_\_\_\_\_ ]ᵀ

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