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TCSS372

Problem 4 Diagram

Main

Start

R1<- String Start Address

R0 <- Name Prompt String Address  
“

PUTS; Display prompt

R0 <- input (GETC)

OUT (Display R0 Char)

SAVE R0 to address in R1 (LEA)

R1 <- R1+1

R0 <- R0 - 10

R0 == 0? (DONE?)

No

Yes

R1 <- R1-1

Save R0 to Memory[R1] (LEA)

R1 <- String Start Address

R2 <- Small Constant from Memory

R3 <- Encrypt Start Address

R7 <- PC

PC <- R3

(Go to Encrypt)

R1 <- NOT R1

R1 <- R1+R1

R1 <- R1+R0

R1 != 0? (FAIL?)

NO

YES

R0 <- Prompt 2 Start Address

(Press Any Key)

R0 <- Error Message Start Address

PUTS; Display Error

PUTS; Display prompt

R0 <- GETC

R0 <- String Start Address

PUTS; Display encrypted name

ENCRYPT

R0 <- 0

R0 <- R1

Store R3 in Memory (ST)

R3 <- Value at Memory[R0]

R3 == 0? (End of

String?)

R3 <- R3 + R2 (encrypt char)

Store R3 at Memory[R0]

R0 <- R0 + 1

R0 <- 0

R0 <- R1

(Restore Address as return value)

R3 <- Saved R3 in Memory

PC <- R7

(Return)