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Original encrypted string:QEB NRFZH YOLTK CLU GRJMP LSBO QEB IXWV ALDDecrypt with shift -3         :THE
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D:\GoogleDrive\SchoolDocs\College\Fall 2016\CS252\cesar_cypher\cesar.s
.global decrypt
decrypt:
   stmfd  sp!,{v1-v6, lr}
   mov    v1,a1          @copy pointer address , a1 will be overwritten
   mov    v2,a2          @copy what we move by, will be overwritten
   bl     strlen       @get the length of a string into a1
   add      a1,a1,#1         @account for null byte
   mov    v4,a1          @move the stringlength to a1 for counting
   bl     malloc       @allocate memory to make a new string
   mov    v5,#0           @need an iterator for adding to the string
loop:
   ldrb   v6,[v1],#1     @load in characters from argument string arg#
   subs   v6,v6,#65        @use A as the zero point for manipulation
   bmi      pushb          @space or some other char that is less than A (0,65)
   subs   v6,v6,v2       @shift by the second argument given
   bpl      pushb
   add      v6,v6,#26        @went to far back, loop back to end of alphabet
pushb:
   cmp      v6,#26          @see if we went too far ahead
   subge  v6,v6,#26         @if we did then subtract a bit
   add    v6,#65          @add to get us back into the proper ascii space
   strb   v6,[a1,v5]        @write out character
   add    v5,v5,#1       @increment position counter
   subs   v4,v4,#1          @decrement loop counter
   bne    loop          @continue if loop counter isn't zero
   ldmfd sp!,{v1-v6, pc}
.end
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/* decrypt the string encrypted via revised Caesar shift */
#include <stdio.h>

extern char * decrypt( char * encypt, int shift ) ;

void main( int argc, char * argv[] )
{
   char * result ;         /* pointer to decrypted string */
   char encrypt[] = "QEB NRFZH YOLTK CLU GRJMP LSBO QEB IXWV ALD" ;
   //char encrypt[] = "D";
   int i = -3 ;
   printf( "Original encrypted string:%s\n", encrypt ) ;
   result = decrypt( encrypt,i ) ;
   printf( "Decrypt with shift %d          :%s\n", i, result ) ;
}
```