



```

BYTE "|  | ",endl
BYTE "| ",endl
BYTE "| O ",endl
BYTE "| /|\ ",endl
BYTE "| /\ ",endl
BYTE "+-----+ ",endl
BYTE "| YOU WIN | ",endl
BYTE "+-----+ ",endl

```

messageSizeGoodGame DWORD (\$-HANGMAN\_GOODGAME\_00)

HANGMAN\_GOODGAME\_01 LABEL BYTE

```

                                BYTE "+-----+ ",endl
BYTE "|  | ",endl
BYTE "| ",endl
BYTE "| O_ ",endl
BYTE "| /| ",endl
BYTE "| /\ ",endl
BYTE "+-----+ ",endl
BYTE "| YOU WIN | ",endl
BYTE "+-----+ ",endl

```

HANGMAN\_GOODGAME\_02 LABEL BYTE

```

                                BYTE "+-----+ ",endl
BYTE "|  | ",endl
BYTE "| ",endl
BYTE "| O/ ",endl
BYTE "| /| ",endl
BYTE "| /\ ",endl

```

```
BYTE "+-----+ ",endl  
BYTE "| YOU WIN | ",endl  
BYTE "+-----+ ",endl
```

#### HANGMAN\_GOODGAME\_03 LABEL BYTE

```
BYTE "+-----+ ",endl  
  
BYTE "| | ",endl  
BYTE "| ",endl  
BYTE "| O_ ",endl  
BYTE "| /| ",endl  
BYTE "| /\ ",endl  
BYTE "+-----+ ",endl  
BYTE "| YOU WIN | ",endl  
BYTE "+-----+ ",endl
```

#### HANGMAN\_GAMEOVER\_00 LABEL BYTE

```
BYTE "+-----+ ",endl  
  
BYTE "| | ",endl  
BYTE "| O ",endl  
BYTE "| /\ ",endl  
BYTE "| /\ ",endl  
BYTE "| ",endl  
BYTE "+-----+ ",endl  
BYTE "| YOU DIE | ",endl  
BYTE "+-----+ ",endl
```

#### HANGMAN\_GAMEOVER\_01 LABEL BYTE

```
BYTE "+-----+ ",endl
```

```

BYTE "| / ",endl
BYTE "| _O ",endl
BYTE "| _\ ",endl
BYTE "| \ ",endl
BYTE "| ",endl
BYTE "+-----+",endl
BYTE "| YOU DIE | ",endl
BYTE "+-----+",endl

```

HANGMAN\_GAMEOVER\_02 LABEL BYTE

```

                                BYTE "+-----+",endl
BYTE "| | ",endl
BYTE "| O ",endl
BYTE "| /|\ ",endl
BYTE "| /\ ",endl
BYTE "| ",endl
BYTE "+-----+",endl
BYTE "| YOU DIE | ",endl
BYTE "+-----+",endl

```

HANGMAN\_GAMEOVER\_03 LABEL BYTE

```

                                BYTE "+-----+",endl
BYTE "| \ ",endl
BYTE "| O_ ",endl
BYTE "| /\_ ",endl
BYTE "| / ",endl
BYTE "| ",endl
BYTE "+-----+",endl

```

```
BYTE "| YOU DIE | ",endl
```

```
BYTE "+-----+ ",endl
```

HANGMAN\_LIVES\_06 LABEL BYTE

```
BYTE "+-----+ ",endl
```

```
BYTE "| | ",endl
```

```
BYTE "| ",endl
```

```
BYTE "| ",endl
```

```
BYTE "| ",endl
```

```
BYTE "| ",endl
```

```
BYTE "+-----+ ",endl
```

```
BYTE "| | ",endl
```

```
BYTE "+-----+ ",endl
```

HANGMAN\_LIVES\_05 LABEL BYTE

```
BYTE "+-----+ ",endl
```

```
BYTE "| | ",endl
```

```
BYTE "| O ",endl
```

```
BYTE "| ",endl
```

```
BYTE "| ",endl
```

```
BYTE "| ",endl
```

```
BYTE "+-----+ ",endl
```

```
BYTE "| | ",endl
```

```
BYTE "+-----+ ",endl
```

HANGMAN\_LIVES\_04 LABEL BYTE

```
BYTE "+-----+ ",endl
```

```
BYTE "| | ",endl
```

```

BYTE "|   O   ",endl
BYTE "|   |   ",endl
BYTE "|       ",endl
BYTE "|       ",endl
BYTE "+-----+",endl
BYTE "|       | ",endl
BYTE "+-----+",endl

```

#### HANGMAN\_LIVES\_03 LABEL BYTE

```

BYTE "+-----+   ",endl
BYTE "|   |   ",endl
BYTE "|   O   ",endl
BYTE "|  /|   ",endl
BYTE "|       ",endl
BYTE "|       ",endl
BYTE "+-----+",endl
BYTE "|       | ",endl
BYTE "+-----+",endl

```

#### HANGMAN\_LIVES\_02 LABEL BYTE

```

BYTE "+-----+   ",endl
BYTE "|   |   ",endl
BYTE "|   O   ",endl
BYTE "|  /\   ",endl
BYTE "|       ",endl
BYTE "|       ",endl
BYTE "+-----+",endl
BYTE "|       | ",endl

```

```
BYTE "+-----+ ",endl
```

HANGMAN\_LIVES\_01 LABEL BYTE

```
BYTE "+-----+ ",endl
```

```
BYTE "| | ",endl
```

```
BYTE "| O ",endl
```

```
BYTE "| /|\ ",endl
```

```
BYTE "| / ",endl
```

```
BYTE "| ",endl
```

```
BYTE "+-----+ ",endl
```

```
BYTE "| | ",endl
```

```
BYTE "+-----+ ",endl
```

HANGMAN\_LIVES\_00 LABEL BYTE

```
BYTE "+-----+ ",endl
```

```
BYTE "| | ",endl
```

```
BYTE "| O ",endl
```

```
BYTE "| /|\ ",endl
```

```
BYTE "| /\ ",endl
```

```
BYTE "| ",endl
```

```
BYTE "+-----+ ",endl
```

```
BYTE "| | ",endl
```

```
BYTE "+-----+ ",endl
```

; random number what we generate

ranNum DWORD ?

;All words what is possible to guess.

;Pick by random generartor and put in selectedWords

```
manyWords BYTE "BICYCLE", 0
           BYTE "CANOE", 0
           BYTE "SCATEBOARD", 0
           BYTE "OFFSIDE", 0
           BYTE "TENNIS", 0
           BYTE "SOFTBALL", 0
           BYTE "KNOCKOUT", 0
           BYTE "CHALLENGE", 0
           BYTE "SLALOM", 0
           BYTE "MARATHON", 0
           BYTE 0 ; End of list
```

len equ \$ - manyWords

; number what we make to know where are you in game  
statusGameLive DWORD ?

;WordsIs what we select by random code

```
selectedWords BYTE " ", 0
```

;Use as variable in funcstion for length of Array  
lengthArray DWORD ?

;Letter what we guess, input from keyboard

```
guessLetter BYTE ?
```

;World what we print with -----,0

```
guessWords BYTE 50 DUP (?)
```



```
;Array of guess Letter
guessLetterArray BYTE 50 DUP (?)
chardelete BYTE 'A'
;Letter what are unknowns, change with -
letterDash BYTE '-'
```

```
drowDelay = 1000    ; delay 1 sec
var_loop BYTE 15    ; repeat 15 times
```

```
.code
```

```
main PROC
```

```
; Get the console output handle:
```

```
    INVOKE GetStdHandle, STD_OUTPUT_HANDLE
    mov consoleHandle,eax
```

```
jump_game_start_again:
```

```
; Write a string to the console:
```

```
    INVOKE WriteConsole,
        consoleHandle,                ;console output handle
        ADDR message,                ; string pointer
        messageSize,                  ; string length
        ADDR bytesWritten,            ; returns num bytes written
        0                             ; not used
```

;Part of code for generate random number from 0 until 9

```
mov  eax,10           ;get random 0 to 9
call Randomize         ;re-seed generator
call RandomRange
mov  ranNum,eax        ;save random number
```

;call WriteDec

```
call CrLf             ;new line
```

;Find a selectedWords base on generate ranNum from manyWords

```
mov  edx, ranNum      ;Index
call find_str         ;Returns EDI = pointer to string, we pick world
```

;Copy find world in variable selectedWords

```
    INVOKE Str_copy,
ADDR [edi],
ADDR selectedWords
```

;Print selectedWords on screen

```
;mov  edx, offset selectedWords
;call WriteString
;call CrLf             ;new line
```

;Make array of dash. It would be world what we guess

```
call make_array_dash
```

;Inicialization number of life what you have

mov statusGameLive, 6

again\_input\_world:

;Print figure depending on the number of lives

call print\_hangman\_live

;Check if you have more live. If player lost all lives, game is over

cmp statusGameLive, 0

je loop\_game\_over

mov eax,green+(black\*16)

call SetTextColor

mWrite <"Guess a letter: ">

call readChar ;User inputs char

cmp al, 27 ;Check if is press ESC

je exit\_main ;YES, end game

cmp al, 32 ;Check if is press SPACE

je restart\_game ;YES, restart game

and al, 0DFH ;Convert lowercase input to uppercase.

;If uppercase, it remains uppercase

push eax

sub al, 'A' ;checks if it is a letter

cmp al, 'Z'-'A'

jbe uppercase

jmp again\_input\_world

uppercase:

pop eax

mov guessLetter, al

call WriteChar

call Crlf ;new line

call Crlf ;new line

mov eax,white+(black\*16)

call SetTextColor

;Check if letter is already guessed

mov ecx, LENGTHOF guessLetterArray

mov edi, offset guessLetterArray

mov al, guessLetter ; Load character to find

repne scasb ; Search

je loop\_guess\_letter\_exists ; Letter already exist

call make\_array\_guess\_letter

;Check if letter is in selectedWords. If not take life

mov ecx, LENGTHOF selectedWords

mov edi, offset selectedWords

mov al, guessLetter ; Load character to find

```
repne scasb          ; Search
jne loop_take_live   ; Letter exist take life
```

; We are making new array, guess letter whange dash on right please

```
mov esi, offset selectedWords ; Source
mov edi, offset guessWords    ; Destination
mov ecx, LENGTHOF selectedWords ; Number of bytes to check
mov al, guessLetter           ; Search for that character
xor ebx, ebx                  ; Index EBX = 0
```

ride\_hard\_loop:

```
cmp [esi+ebx], al      ; Compare memory/register
jne @F                 ; Skip next line if no match
mov [edi+ebx], al      ; Hang 'em lower
@@:
inc ebx                ; Increment pointer
dec ecx                ; Decrement counter
jne ride_hard_loop     ; Jump if ECX != 0
```

;Is there more letter to guess of we finish

```
mov ecx, LENGTHOF guessWords
mov edi, offset guessWords
mov al, letterDash      ; Load character to find
repne scasb             ; Search
jne loop_game_win       ; No more letter
jmp again_input_world    ; Guess next world
```

exit\_main:

INVOKE ExitProcess,0

mWrite <"Guess a letter: ">

call readChar ;User inputs char

cmp al, 27 ;Check if is press ESC

je exit\_main ;YES, end game

cmp al, 32 ;Check if is press SPACE

je restart\_game ;YES, restart game

and al, 0DFH ;Convert lowercase input to uppercase.

;If uppercase, it remains uppercase

push eax

sub al, 'A' ;checks if it is a letter

cmp al, 'Z'-'A'

jbe uppercase

jmp again\_input\_world

uppercase:

pop eax

mov guessLetter, al

call WriteChar

call CrLf ;new line

call CrLf ;new line

mov eax,white+(black\*16)

call SetTextColor

;Check if letter is alredy guessed

mov ecx, LENGTHOF guessLetterArray

mov edi, offset guessLetterArray

mov al, guessLetter ; Load character to find

repne scasb ; Search

je loop\_guess\_letter\_exists ; Letter already exist

call make\_array\_guess\_letter

;Check if letter is in selectedWords. If not take life

mov ecx, LENGTHOF selectedWords

mov edi, offset selectedWords

mov al, guessLetter ; Load character to find

repne scasb ; Search

jne loop\_take\_live ; Letter exist take life

; We are making new array, guess letter whange dash on right pleace

mov esi, offset selectedWords ; Source

mov edi, offset guessWords ; Destination

mov ecx, LENGTHOF selectedWords ; Number of bytes to check

mov al, guessLetter ; Search for that character

xor ebx, ebx ; Index EBX = 0

ride\_hard\_loop:

cmp [esi+ebx], al ; Compare memory/register

jne @F ; Skip next line if no match

mov [edi+ebx], al ; Hang 'em lower

@@:

inc ebx ; Increment pointer

dec ecx ; Decrement counter

jne ride\_hard\_loop ; Jump if ECX != 0

;Is there more letter to guess of we finish

mov ecx, LENGTHOF guessWords

mov edi, offset guessWords

mov al, letterDash ; Load character to find

repne scasb ; Search

jne loop\_game\_win ; No more letter

jmp again\_input\_world ; Guess next world

exit\_main:

INVOKE ExitProcess,0

mov edx, OFFSET guessLetterArray

call StrLength

mov lengthArray, eax



```

mov edi, offset guessLetterArray ; Destination
add edi, lengthArray
dec edi
;INVOKE Str_trim, ADDR guessLetterArray, guessLetter
INVOKE Str_trim, ADDR guessLetterArray, [edi]

```

```

cmp edi, offset guessLetterArray
jne restart_game

```

;Return white color again

```

mov eax,white+(black*16)
call SetTextColor
call CrLf ;new line

```

```

jmp jump_game_start_again ; Guess next letter

```

loop\_game\_win:

```

mGotoxy 0, 15

```

; Write a string to the console:

```

INVOKE WriteConsole,
    consoleHandle, ;console output handle
    ADDR HANGMAN_GOODGAME_00, ; string pointer
    messageSizeGoodGame, ; string length
    ADDR bytesWritten, ; returns num bytes written
    0 ; not used

```

```
    mov eax, drawDelay
    call Delay
    mGotoxy 0, 15
    mov  eax,green+(black*16)
call SetTextColor
```

; Write a string to the console:

```
    INVOKE WriteConsole,
        consoleHandle,                ;console output handle
        ADDR HANGMAN_GOODGAME_01,    ; string pointer
        messageSizeGoodGame,          ; string length
        ADDR bytesWritten,             ; returns num bytes written
        0                             ; not used
```

```
    mov eax, drawDelay
    call Delay
    mGotoxy 0, 15
    mov  eax,yellow+(black*16)
call SetTextColor
```

; Write a string to the console:

```
    INVOKE WriteConsole,
        consoleHandle,                ;console output handle
        ADDR HANGMAN_GOODGAME_02,    ; string pointer
        messageSizeGoodGame,          ; string length
        ADDR bytesWritten,             ; returns num bytes written
        0                             ; not used
```

```
    mov eax, drowDelay
    call Delay
    mGotoxy 0, 15
    mov  eax,cyan+(black*16)
call SetTextColor
```

; Write a string to the console:

```
    INVOKE WriteConsole,
        consoleHandle,                ;console output handle
        ADDR HANGMAN_GOODGAME_03,    ; string pointer
        messageSizeGoodGame,          ; string length
        ADDR bytesWritten,             ; returns num bytes written
        0                             ; not used
```

```
    mov eax, drowDelay
    call Delay
    mGotoxy 0, 15
    mov  eax,red+(black*16)
call SetTextColor
```

```
    dec var_loop
    cmp var_loop, 0
    jne loop_game_win
```

;restar game after 4\*15sekunds

```
    jmp jump_game_start_again
```

loop\_game\_over:

mGotoxy 0, 15

; Write a string to the console:

```
INVOKE WriteConsole,  
    consoleHandle,                ;console output handle  
    ADDR HANGMAN_GAMEOVER_00,    ; string pointer  
    messageSizeGoodGame,          ; string length  
    ADDR bytesWritten,            ; returns num bytes written  
    0                             ; not used
```

mov eax, drawDelay

call Delay

mGotoxy 0, 15

mov eax, green+(black\*16)

call SetTextColor

; Write a string to the console:

```
INVOKE WriteConsole,  
    consoleHandle,                ;console output handle  
    ADDR HANGMAN_GAMEOVER_01,    ; string pointer  
    messageSizeGoodGame,          ; string length  
    ADDR bytesWritten,            ; returns num bytes written  
    0                             ; not used
```

mov eax, drawDelay

```
call Delay
mGotoxy 0, 15
mov eax,yellow+(black*16)
call SetTextColor
```

; Write a string to the console:

```
INVOKE WriteConsole,
    consoleHandle,                ;console output handle
    ADDR HANGMAN_GAMEOVER_02,    ; string pointer
    messageSizeGoodGame,          ; string length
    ADDR bytesWritten,            ; returns num bytes written
    0                             ; not used
```

```
mov eax, drowDelay
call Delay
mGotoxy 0, 15
mov eax,cyan+(black*16)
call SetTextColor
```

; Write a string to the console:

```
INVOKE WriteConsole,
    consoleHandle,                ;console output handle
    ADDR HANGMAN_GAMEOVER_03,    ; string pointer
    messageSizeGoodGame,          ; string length
    ADDR bytesWritten,            ; returns num bytes written
    0                             ; not used
```

```
mov eax, drowDelay
```

```
    call Delay
    mGotoxy 0, 15
    mov eax, red+(black*16)
call SetTextColor
```

```
    dec var_loop
    cmp var_loop, 0
    jne loop_game_over
```

```
;restar game after 4*15sekunds
    mov eax, white+(black*16)
call SetTextColor
    jmp jump_game_start_again
```

```
main ENDP
```

```
find_str PROC                                ; ARG: EDX = index
```

```
    lea edi, manyWords      ; Address of string list
```

```
    mov ecx, len            ; Maximal number of bytes to scan
```

```
    xor al, al              ; Scan for 0
```

```
@@:
```

```
    sub edx, 1
```

```
    jc done                 ; No index left to scan = string found
```

```
    repne scasb             ; Scan for AL
```

```
    jmp @B                 ; Next string
```

done:

ret

find\_str ENDP ; RESULT: EDI pointer to string[edx]

make\_array\_dash PROC

mov edx,OFFSET selectedWords

call StrLength ; Length of a null-terminated string pointed to by EDX

mov lengthArray,eax

mov al, '-' ; Default charcter for guessWords

mov ecx, lengthArray ; REP counter

mov edi, offset guessWords ; Destination

rep stosb ; Build guessWords

mov BYTE PTR [edi], 0 ; Store the null termination

ret

make\_array\_dash ENDP

make\_array\_guess\_letter PROC

mov edx, OFFSET guessLetterArray

call StrLength ; Length of a null-terminated string pointed to by  
EDX

mov lengthArray, eax

mov edi, offset guessLetterArray ; Destination

add edi, lengthArray

mov al, guessLetter

```
mov BYTE PTR [edi], al    ; Store guessLetter
inc edi
mov BYTE PTR [edi], ' '   ; Store the null termination
```

```
ret
make_array_guess_letter ENDP
```

```
print_hangman_live PROC
```

```
mov eax, statusGameLive
```

```
cmp eax, 6
```

```
je live_6
```

```
cmp eax, 5
```

```
je live_5
```

```
cmp eax, 4
```

```
je live_4
```

```
cmp eax, 3
```

```
je live_3
```

```
cmp eax, 2
```

```
je live_2
```

```
cmp eax, 1
```

```
je live_1
```

```
cmp eax, 0
```

```
je live_0
```

```
live_6:  ; Write a string to the console:
```

```
    INVOKE WriteConsole,
```



```

        consoleHandle,                ; console output handle
        ADDR HANGMAN_LIVES_06,      ; string pointer
        messageSizeGoodGame,        ; string length
        ADDR bytesWritten,          ; returns num bytes written
        0                            ; not used
    call CrLf                        ; new line
    call CrLf                        ; new line
    mov edx, offset guessWords
    call WriteString                 ; write a string pointed to by EDX
    call CrLf                        ; new line
    call CrLf                        ; new line
    mWrite <"Guessed letter are: ">
    mov edx, offset guessLetterArray
    call WriteString                 ; write a string pointed to by EDX
    call CrLf                        ; new line
    call CrLf                        ; new line
    ret

```

live\_5: ; Write a string to the console:

```

    INVOKE WriteConsole,
        consoleHandle,                ;console output handle
        ADDR HANGMAN_LIVES_05,      ; string pointer
        messageSizeGoodGame,        ; string length
        ADDR bytesWritten,          ; returns num bytes written
        0                            ; not used
    call CrLf                        ; new line
    call CrLf                        ; new line
    mov edx, offset guessWords

```

```

call WriteString      ; write a string pointed to by EDX
call CrLf             ; new line
call CrLf             ; new line
mWrite <"Guessed letter are: ">
mov edx, offset guessLetterArray
call WriteString      ; write a string pointed to by EDX
call CrLf             ; new line
call CrLf             ; new line
ret

```

live\_4: ; Write a string to the console:

```

INVOKE WriteConsole,
    consoleHandle,      ;console output handle
    ADDR HANGMAN_LIVES_04, ; string pointer
    messageSizeGoodGame, ; string length
    ADDR bytesWritten,  ; returns num bytes written
    0                  ; not used
call CrLf              ; new line
call CrLf              ; new line
mov edx, offset guessWords
call WriteString      ; write a string pointed to by EDX
call CrLf             ; new line
call CrLf             ; new line
mWrite <"Guessed letter are: ">
mov edx, offset guessLetterArray
call WriteString      ; write a string pointed to by EDX
call CrLf             ; new line
call CrLf             ; new line

```

ret

live\_3: ; Write a string to the console:

```
    INVOKE WriteConsole,
        consoleHandle,                ;console output handle
        ADDR HANGMAN_LIVES_03,      ; string pointer
        messageSizeGoodGame,        ; string length
        ADDR bytesWritten,          ; returns num bytes written
        0                            ; not used
    call Crlf                          ; new line
    call Crlf                          ; new line
    mov edx, offset guessWords
    call WriteString                  ; write a string pointed to by EDX
    call Crlf                        ; new line
    call Crlf                        ; new line
    mWrite <"Guessed letter are: ">
    mov edx, offset guessLetterArray
    call WriteString                  ; write a string pointed to by EDX
    call Crlf                        ; new line
    call Crlf                        ; new line
    ret
```

live\_2: ; Write a string to the console:

```
    INVOKE WriteConsole,
        consoleHandle,                ;console output handle
        ADDR HANGMAN_LIVES_02,      ; string pointer
        messageSizeGoodGame,        ; string length
        ADDR bytesWritten,          ; returns num bytes written
```

```

        0                                ; not used
call CrLf                                ; new line
call CrLf                                ; new line
mov edx, offset guessWords
call WriteString                          ; write a string pointed to by EDX
call CrLf                                ; new line
call CrLf                                ; new line
mWrite <"Guessed letter are: ">
mov edx, offset guessLetterArray
call WriteString                          ; write a string pointed to by EDX
call CrLf                                ; new line
call CrLf                                ; new line
ret

```

live\_1: ; Write a string to the console:

```

INVOKE WriteConsole,
    consoleHandle,                        ;console output handle
    ADDR HANGMAN_LIVES_01,               ; string pointer
    messageSizeGoodGame,                 ; string length
    ADDR bytesWritten,                   ; returns num bytes written
    0                                    ; not used
call CrLf                                ; new line
call CrLf                                ; new line
mov edx, offset guessWords
call WriteString                          ; write a string pointed to by EDX
call CrLf                                ; new line
call CrLf                                ; new line
mWrite <"Guessed letter are: ">

```

```

mov edx, offset guessLetterArray
call WriteString      ; write a string pointed to by EDX
call CrLf             ; new line
call CrLf             ; new line
ret

```

live\_0: ; Write a string to the console:

```

INVOKE WriteConsole,
    consoleHandle,          ;console output handle
    ADDR HANGMAN_LIVES_00,  ; string pointer
    messageSizeGoodGame,    ; string length
    ADDR bytesWritten,      ; returns num bytes written
    0                       ; not used
call CrLf                  ; new line
call CrLf                  ; new line
mov edx, offset guessWords
call WriteString           ; write a string pointed to by EDX
call CrLf                  ; new line
call CrLf                  ; new line
mWrite <"Guessed letter are: ">
mov edx, offset guessLetterArray
call WriteString           ; write a string pointed to by EDX
call CrLf                  ; new line
call CrLf                  ; new line
ret

```

print\_hangman\_live ENDP

END main