

# ***DUNGEON CRAWLER***

**Versión 2.0**

Dual TIC Tarragona – Diputació de Tarragona

Reus, 13 de Febrero de 2018

## Índice

1. Nombre del proyecto.....	3
2. Participantes.....	4
2.1. Programadores.....	4
2.2. Dictador benevolente.....	4
3. Descripción del proyecto.....	5
4. Detalle del programa.....	6
4.1. Archivos que lo componen.....	6
4.2. Github.....	6
4.3. Detalles de la versión 2.0.....	6
5. Código fuente.....	7
6. Conclusión.....	31

## **1. Nombre del proyecto**

Dungeon Crawler

Versión 2.0

## **2. Participantes**

### **2.1. Programadores**

Juanjo Sánchez Castro - [juanho.musico@gmail.com](mailto:juanho.musico@gmail.com)  
Juan Ramón Espuny Gutiérrez - [jrespuny@gmail.com](mailto:jrespuny@gmail.com)

### **2.2. Dictador benevolente**

Juan Ramón Espuny Gutiérrez - [jrespuny@gmail.com](mailto:jrespuny@gmail.com)

### **3. Descripción del proyecto**

Juego que permite escoger un héroe que luchará contra diferentes monstruos consecutivamente hasta que los mate y gane, o hasta que alguno de los monstruos lo mate y pierda.

Los héroes y los monstruos están almacenados en dos ficheros de texto secuenciales que se usarán para poder escoger el héroe que luchará contra los diferentes monstruos y ambos tienen los mismos campos.

El juego permitirá escoger el héroe, modificar sus características y mostrarlas.

El menú debe contener las opciones:

1. Seleccionar héroe
2. Modificar héroe
3. A la batalla!

## 4. Detalle del programa

### 4.1. Archivos que lo componen

Dungeon-Crawler\

→ DUNGCRWL.cbl	Código fuente
bin\ → DUNGCRWL.exe	Ejecutable
→ HEROES.txt	Registros de héroes
→ DUNGEON.txt	Registros de monstruos

### 4.2. Github

- **Versión 1.0:** <https://github.com/Zafiro93/Dungeon-Crawler/releases/tag/v-1.0>
- **Versión 2.0:** <https://github.com/Zafiro93/Dungeon-Crawler/releases/tag/v-2.0>

### 4.3. Detalles de la versión 2.0

- Añadida una pantalla de inicio, una pantalla de partida ganada, de partida perdida y unos créditos al finalizar el juego.
- Aplicados dos conocimientos de las *Screens* en COBOL, tanto el *Screen Section* como aplicar el código en *DISPLAYS*.
- Integrados sistemas de Pausas para tener mejor visualización.
- Probado un sistema de música al iniciar el juego, que al final, no ha resultado satisfactorio, pero no negamos que no pueda volver a probarse y usarse en un futuro.

## 5. Código fuente

```
IDENTIFICATION DIVISION.  
PROGRAM-ID. DUNGCRAWL.  
*****  
* JUEGO: DUNGEON CRAWLER *  
*****  
ENVIRONMENT DIVISION.  
INPUT-OUTPUT SECTION.  
FILE-CONTROL.  
SELECT HEROES-FILE ASSIGN TO "HEROES.TXT"  
FILE STATUS IS WS-HEROES-FS  
ORGANIZATION IS LINE SEQUENTIAL.  
SELECT MONSTERS-FILE ASSIGN TO "DUNGEON.TXT"  
FILE STATUS IS WS-MONSTERS-FS  
ORGANIZATION IS LINE SEQUENTIAL.  
DATA DIVISION.  
FILE SECTION.  
FD HEROES-FILE.  
01 HEROES-REG.  
05 HEROES-R-ID PIC 9(02) VALUE ZERO.  
05 HEROES-R-STRENGTH PIC 9(02) VALUE ZERO.  
05 HEROES-R-AGILITY PIC 9(02) VALUE ZERO.  
05 HEROES-R-LEVEL PIC 9(02) VALUE ZERO.  
05 HEROES-R-HP PIC 9(02) VALUE ZERO.  
05 HEROES-R-PROFESSION PIC 9(02) VALUE ZERO.  
FD MONSTERS-FILE.  
01 MONSTERS-REG.  
05 MONSTER-R-ID PIC 9(02) VALUE ZERO.  
05 MONSTER-R-STRENGTH PIC 9(02) VALUE ZERO.  
05 MONSTER-R-AGILITY PIC 9(02) VALUE ZERO.  
05 MONSTER-R-LEVEL PIC 9(02) VALUE ZERO.  
05 MONSTER-R-HP PIC 9(02) VALUE ZERO.  
05 MONSTER-R-PROFESSION PIC 9(02) VALUE ZERO.  
WORKING-STORAGE SECTION.  
01 WS-CONSTANTS.  
05 WS-GAME-NAME PIC X(15)  
VALUE "Dungeon Crawler".
```

```

05 WS-MAX-HEROES PIC 9(02) VALUE 7.
05 WS-MAX-MONSTERS PIC 9(02) VALUE 10.
05 WS-INPUT_CURSOR_SCREEN_POS.
10 WS-ICSP-1-LINE PIC 9(02) VALUE 4.
10 WS-ICSP-1-COL PIC 9(02) VALUE 20.
10 WS-ICSP-2-LINE PIC 9(02) VALUE 7.
10 WS-ICSP-2-COL PIC 9(02) VALUE 14.
05 WS-DISPLAY-SHIFT.
10 WS-HEROES-MENU-TITLE-SHIFT PIC 9(02) VALUE 6.
10 WS-HEROES-MENU-CONTENT-SHIFT PIC 9(02) VALUE 2.
10 WS-MHM-TITLE-SHIFT PIC 9(02) VALUE 6.
05 WS-MAX-ANIMATION-CYCLES PIC 9(01) VALUE 3.
05 WS-MAX-IMG-FIGHT-LENGTH PIC 9(01) VALUE 9.
05 WS-INI-IMG-LINE PIC 9(02) VALUE 12.
05 WS-MAX-ARR PIC 9(02) VALUE 88.
05 WS-SCREEN-LINE-POS PIC 9(02) VALUE 1.
01 WS-AUX.
05 WS-AUX-NUMBER PIC S9(05) VALUE ZERO.
05 WS-AUX-ALPHA PIC X(01) VALUE SPACE.
01 WS-IMG-FIGHT.
05 W-IMG-FIGHT-MONSTER.
10 WS-IMG-FIGHT-M PIC X(29) OCCURS 9 TIMES VALUE SPACES.
*> 10 FILLER VALUE " ".
*> 10 FILLER VALUE " /-/--\ ".
*> 10 FILLER VALUE " (@~@) )/\ ".
*> 10 FILLER VALUE " ____/-- \ | ".
*> 10 FILLER VALUE " (oo)__ _ )_/ ".
*> 10 FILLER VALUE " ^^____/ \ ".
*> 10 FILLER VALUE " \ |/-\ ".
*> 10 FILLER VALUE " ( ) | ".
*> 10 FILLER VALUE " | \_/ ".
05 WS-IMG-FIGHT-SWORD.
10 WS-IMG-FIGHT-S PIC X(29) OCCURS 9 TIMES VALUE SPACES.
*> 10 FILLER VALUE " _____ ".
*> 10 FILLER VALUE " / \ / \ ".
*> 10 FILLER VALUE " , | ' | ".
*> 10 FILLER VALUE " I __L_____ L__ ".
*> 10 FILLER VALUE "O===IE_____/ ./____>".
*> 10 FILLER VALUE " I \. ./ ".
*> 10 FILLER VALUE " ` \. ./ ".

```



```
*> 10 FILLER VALUE " \ / ".
*> 10 FILLER VALUE " ' ".
05 WS-IMG-FIGHT-PHOTOGRAM PIC 9(01) VALUE ZERO.
05 WS-IMG-FIGHT-LINE-I PIC 9(02) VALUE ZERO.
01 WS-HEROES-FILE.
05 WS-HEROES-FS PIC X(02) VALUE ZEROES.
88 WS-H-FS-OK VALUE "00".
88 WS-H-FS-EOF VALUE HIGH-VALUE.
05 WS-HERO-PROFESSION PIC X(02) VALUE SPACES.
88 WS-H-P-GUERRERO VALUE "34".
88 WS-H-P-ARQUERO VALUE "44".
88 WS-H-P-MAGO VALUE "45".
05 WS-HEROES-REG.
10 WS-H-R-LENGTH PIC 9(01) VALUE ZERO.
10 WS-H-R-INDEX PIC 9(01) VALUE ZERO.
10 WS-H-R-CURRENT PIC 9(01) VALUE ZERO.
* WS-HEROES-R OCCURS **WS-MAX-HEROES** TIMES
10 WS-HEROES-R OCCURS 7 TIMES.
15 WS-H-R-ID PIC 9(02) VALUE ZERO.
15 WS-H-R-STRENGTH PIC 9(02) VALUE ZERO.
15 WS-H-R-AGILITY PIC 9(02) VALUE ZERO.
15 WS-H-R-LEVEL PIC 9(02) VALUE ZERO.
15 WS-H-R-HP PIC 9(02) VALUE ZERO.
15 WS-H-R-PROFESSION PIC 9(02) VALUE ZERO.
01 WS-MONSTERS-FILE.
05 WS-MONSTERS-FS PIC X(02) VALUE ZEROES.
88 WS-M-FS-OK VALUE "00".
88 WS-M-FS-EOF VALUE HIGH-VALUE.
05 WS-MONSTERS-REG.
10 WS-M-R-LENGTH PIC 9(01) VALUE ZERO.
10 WS-M-R-INDEX PIC 9(01) VALUE ZERO.
10 WS-M-R-CURRENT PIC 9(01) VALUE ZERO.
* WS-MONSTERS-R OCCURS **WS-MAX-MONSTERS** TIMES
10 WS-MONSTERS-R OCCURS 10 TIMES.
15 WS-M-R-ID PIC 9(02) VALUE ZERO.
15 WS-M-R-STRENGTH PIC 9(02) VALUE ZERO.
15 WS-M-R-AGILITY PIC 9(02) VALUE ZERO.
15 WS-M-R-LEVEL PIC 9(02) VALUE ZERO.
15 WS-M-R-HP PIC 9(02) VALUE ZERO.
15 WS-M-R-PROFESSION PIC 9(02) VALUE ZERO.
```

```
01 WS-VALID-OPTION PIC X(37) VALUES ALL SPACES.
88 WS-RESET-VALID-OPTION VALUE ALL SPACES.
88 WS-INVALID-OPTION
VALUE "[Escoge una opcion correcta]".
88 WS-MISSING-STEPS-OPTION
VALUE "[Primero debes seleccionar un heroe!]".
01 WS-SHOW-SELECTED-HERO-OPTION PIC X(08) VALUE ALL SPACES.
88 WS-RESET-SELECTED-HERO-OPTION VALUE ALL SPACES.
88 WS-SELECTED-HERO-OPTION VALUE "con ID: ".
01 WS-MAIN-MENU.
05 WS-MM-OPTION PIC X(01) VALUE SPACE.
88 WS-MM-OP-EXIT VALUE "0".
88 WS-MM-OP-SELECT VALUE "1".
88 WS-MM-OP-MODIFY VALUE "2".
88 WS-MM-OP-PLAY VALUE "3".
05 WS-MM.
10 FILLER PIC X(15)
VALUE "MENU PRINCIPAL".
10 WS-MM-ERROR PIC X(37) VALUE ALL SPACES.
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(14) VALUE ALL "-".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(18) VALUE "Escoge una opcion:".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(20)
VALUE "1- Seleccionar heroe".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(19)
VALUE "2- Modificar heroe ".
10 WS-MM-PREFIX PIC X(08) VALUE SPACES.
10 WS-MM-HERO-ID PIC X(02) VALUE SPACES.
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(16) VALUE "3- A la batalla!".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(09) VALUE "0- Salir.".
01 WS-HEROES-MENU.
05 WS-H-OPTION PIC X(01) VALUE SPACE.
```

```
88 WS-H-OP-CONTINUE VALUE SPACE.
88 WS-H-OP-EXIT VALUE "0".
05 WS-HEROES-MENU-TITLE.
10 WS-HM-HEADING PIC X(18)
VALUE "LISTADO DE HEROES ".
10 WS-HM-ERROR PIC X(28) VALUE ALL SPACES.
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(17) VALUE ALL "-".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(18) VALUE "Escoge una opcion:".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(52)
VALUE " ID Fuerza Agilidad Nivel P. Vida Profesion".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(52)
VALUE " -- ----- ----- ----- -----".
05 WS-HEROES-MENU-CONTENT.
10 WS-HMC-SELECTED PIC X(01) VALUE SPACE.
10 FILLER PIC X(01) VALUE SPACE.
10 WS-HMC-INDEX PIC 9(01).
10 FILLER PIC X(02) VALUE "- ".
10 WS-HMC-ID PIC 9(02) .
10 FILLER PIC X(04) VALUE SPACES.
10 WS-HMC-STRENGTH PIC 9(02).
10 FILLER PIC X(07) VALUE SPACES.
10 WS-HMC-AGILITY PIC 9(02).
10 FILLER PIC X(06) VALUE SPACES.
10 WS-HMC-LEVEL PIC 9(02).
10 FILLER PIC X(06) VALUE SPACES.
10 WS-HMC-HP PIC 9(02).
10 FILLER PIC X(06) VALUE SPACES.
10 WS-HMC-PROFESSION PIC X(08).
05 WS-HEROES-MENU-FOOTER.
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(09) VALUE "0- Salir".
01 WS-MOD-HEROES-MENU.
05 WS-MHM-OPTION PIC X(01) VALUE SPACE.
88 WS-MHM-OP-CONTINUE VALUE SPACE.
```

```
88 WS-MHM-OP-EXIT VALUE "0".
88 WS-MHM-OP-STRENGTH VALUE "1".
88 WS-MHM-OP-AGILITY VALUE "2".
88 WS-MHM-OP-LEVEL VALUE "3".
88 WS-MHM-OP-HP VALUE "4".
05 WS-MHM-TITLE.
10 FILLER PIC X(16)
VALUE "MODIFICAR HEROE ".
10 WS-MHM-ERROR PIC X(28) VALUE ALL SPACES.
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(15) VALUE ALL "-".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(18) VALUE "Escoge una opcion:".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(01) VALUE X"0A".
05 WS-MHM-SELECTION-TITLE.
10 FILLER PIC X(16)
VALUE "MODIFICAR HEROE ".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(15) VALUE ALL "-".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(30)
VALUE "Selecciona el nuevo valor de: ".
10 WS-MHM-SEL-TIT-MODIFYING PIC X(11) VALUE ALL SPACES.
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(15) VALUE "Antiguo valor: ".
10 WS-MHM-SEL-TIT-NEWVALUE PIC X(10) VALUE ALL SPACES.
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(13) VALUE "Nuevo valor: ".
05 WS-MHM-CONTENT.
10 FILLER PIC X(11) VALUE "1- Fuerza: ".
10 WS-MHM-C-STRENGTH PIC 9(02) VALUE ZEROES.
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(13) VALUE "2- Agilidad: ".
10 WS-MHM-C-AGILITY PIC 9(02) VALUE ZEROES.
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(10) VALUE "3- Nivel: ".
```

```

10 WS-MHM-C-LEVEL PIC 9(02) VALUE ZEROES.
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(16)
VALUE "4- Puntos Vida: ".
10 WS-MHM-C-HP PIC 9(02) VALUE ZEROES.
05 WS-MHM-FOOTER.
10 FILLER PIC X(01) VALUE X"0A".
10 FILLER PIC X(09) VALUE "0- Salir".
01 WS-PAUSE-MECHANISM.
05 WS-PM-NOW-1.
10 WS-PM-NOW-1-DATE PIC 9(08) VALUE ZERO.
10 WS-PM-NOW-1-TIME PIC 9(08) VALUE ZERO.
05 WS-PM-NOW-2.
10 WS-PM-NOW-2-DATE PIC 9(08) VALUE ZERO.
10 WS-PM-NOW-2-TIME PIC 9(08) VALUE ZERO.
05 WS-PM-WRK-ONE-DAY PIC 9(08) VALUE ZERO.
05 WS-PM-DELTA-TIME PIC 9(08) VALUE ZERO.
01 WS-CREDITS.
05 WS-C-ARR PIC X(42) OCCURS 88 TIMES
VALUE SPACES.
05 WS-C-POS PIC 9(02) VALUE 1.
05 WS-C-I PIC 9(02) VALUE 1.
05 WS-C-SCREEN-LINE PIC 9(02) VALUE 1.
05 WS-C-FINAL-POS PIC 9(02) VALUE 0.
SCREEN SECTION.
01 SS-CLEAR-SCREEN.
05 BLANK SCREEN.
01 SS-INTRO.
05 SS-TITLE-1.
10 LINE 02 COL 10 VALUE "_____" FOREGROUND-COLOR IS 6.
10 LINE 03 COL 10 VALUE "| _ \" FOREGROUND-COLOR IS 6.
10 LINE 04 COL 10 VALUE
"| | | | _ _ _ _ _ _ _ _ _ _"
FOREGROUND-COLOR IS 6.
10 LINE 05 COL 10 VALUE
"| | | | | | | ' _ \ / _ ` | / _ \ / _ \ | ' _ \"
FOREGROUND-COLOR IS 6.
10 LINE 06 COL 10 VALUE
"| | / / | | | | | ( _ | _ / ( _ ) | | | |"
FOREGROUND-COLOR IS 6.

```

```

10 LINE 07 COL 10 VALUE
"|__/_\_,_|_|_|_\_, |\__|\__/_|_|_|"
FOREGROUND-COLOR IS 6.
10 LINE 08 COL 10 VALUE " __/ |"
FOREGROUND-COLOR IS 6.
10 LINE 09 COL 10 VALUE " |__/"
FOREGROUND-COLOR IS 6.
05 SS-TITLE-2.
10 LINE 10 COL 10 VALUE
" _____"
FOREGROUND-COLOR IS 6.
10 LINE 11 COL 10 VALUE
" / _ \ | |"
FOREGROUND-COLOR IS 6.
10 LINE 12 COL 10 VALUE
" | / \/_ _ _ _ _| | _ _ _ ©"
FOREGROUND-COLOR IS 6.
10 LINE 13 COL 10 VALUE
" | | | '___/ _` \ \ \ / \ / / | / _ \ '___|"
FOREGROUND-COLOR IS 6.
10 LINE 14 COL 10 VALUE
" | \_/\ | | ( _| |\ v v / | | __/ |"
FOREGROUND-COLOR IS 6.
10 LINE 15 COL 10 VALUE
" \__/_| \_,_| \_/\_/_|_|_\_|_|"
FOREGROUND-COLOR IS 6.
05 SS-TITLE-3.
10 LINE 18 COL 40 VALUE
"Hecho por Juan Ramon & Juanjo Sanchez"
FOREGROUND-COLOR IS 2.
05 SS-TITLE-4.
10 LINE 20 COL 15 VALUE
" />" FOREGROUND-COLOR IS 3.
10 LINE 21 COL 15 VALUE
" () //-----("
FOREGROUND-COLOR IS 3.
10 LINE 22 COL 15 VALUE
"(*)OXOXOX(> PULSE ENTER PARA CONTINUAR \".
10 LINE 23 COL 15 VALUE
"() \\\-----)"

```

```
BACKGROUND-COLOR IS 3.
10 LINE 24 COL 15 VALUE
" \>" BACKGROUND-COLOR IS 3 BEEP.
05 PIC X USING WS-AUX-ALPHA.
*****

PROCEDURE DIVISION.
MAIN-PROCEDURE.
PERFORM INIT--WS-HEROES-R--CONTENT
IF WS-M-FS-OK THEN
IF WS-M-FS-OK THEN
PERFORM INI--WS-IMG-FIGHT
PERFORM INI-CREDITS-ARRAY
PERFORM DISPLAY-INTRO
PERFORM DISPLAY-MAIN-MENU UNTIL WS-MM-OP-EXIT
END-IF
END-IF

GO TO STOP-RUN.
*****

* == [DISPLAY-MAIN-MENU] =====BEGIN=
DISPLAY-MAIN-MENU.
PERFORM SET-MAIN-MENU-ERROR
IF WS-H-R-CURRENT > 0 THEN
SET WS-SELECTED-HERO-OPTION TO TRUE
MOVE WS-SHOW-SELECTED-HERO-OPTION TO WS-MM-PREFIX
MOVE WS-H-R-ID(WS-H-R-CURRENT) TO WS-MM-HERO-ID
ELSE
SET WS-RESET-SELECTED-HERO-OPTION TO TRUE
MOVE WS-SHOW-SELECTED-HERO-OPTION TO WS-MM-PREFIX
MOVE SPACE TO WS-MM-HERO-ID
END-IF.
DISPLAY WS-MM LINE 1 COL 1.

SET WS-RESET-VALID-OPTION TO TRUE
ACCEPT WS-MM-OPTION LINE WS-ICSP-1-LINE COL WS-ICSP-1-COL.
DISPLAY SS-CLEAR-SCREEN.

EVALUATE TRUE
```

```
WHEN WS-MM-OP-SELECT
PERFORM DISPLAY-SELECT-HERO
WHEN WS-MM-OP-MODIFY
IF WS-H-R-CURRENT > 0 THEN
PERFORM DISPLAY-MODIFY-HERO
ELSE
SET WS-MISSING-STEPS-OPTION TO TRUE
END-IF
WHEN WS-MM-OP-PLAY
IF WS-H-R-CURRENT > 0 THEN
PERFORM PLAY
ELSE
SET WS-MISSING-STEPS-OPTION TO TRUE
END-IF
WHEN WS-MM-OP-EXIT
PERFORM EXIT-GAME
WHEN OTHER
SET WS-INVALID-OPTION TO TRUE
END-EVALUATE
DISPLAY SS-CLEAR-SCREEN.
*****
SET-MAIN-MENU-ERROR.
MOVE WS-VALID-OPTION TO WS-MM-ERROR.
*****
DISPLAY-SELECT-HERO.
SET WS-RESET-VALID-OPTION TO TRUE.
PERFORM DISPLAY-HEROES-MENU UNTIL WS-H-OP-EXIT OR
(1 <= WS-H-OPTION AND WS-H-OPTION <= WS-H-R-LENGTH)
IF NOT WS-H-OP-EXIT THEN
MOVE WS-H-OPTION TO WS-H-R-CURRENT
END-IF
SET WS-H-OP-CONTINUE TO TRUE.
SET WS-RESET-VALID-OPTION TO TRUE.
*****
DISPLAY--WS-HEROES-R.
IF WS-H-R-INDEX = WS-H-R-CURRENT THEN
MOVE "*" TO WS-HMC-SELECTED
ELSE
MOVE SPACE TO WS-HMC-SELECTED
END-IF
```



```
MOVE WS-H-R-INDEX TO WS-HMC-INDEX
MOVE WS-H-R-ID(WS-H-R-INDEX) TO WS-HMC-ID
MOVE WS-H-R-STRENGTH(WS-H-R-INDEX) TO WS-HMC-STRENGTH
MOVE WS-H-R-AGILITY(WS-H-R-INDEX) TO WS-HMC-AGILITY
MOVE WS-H-R-LEVEL(WS-H-R-INDEX) TO WS-HMC-LEVEL
MOVE WS-H-R-HP(WS-H-R-INDEX) TO WS-HMC-HP
```

```
MOVE WS-H-R-PROFESSION(WS-H-R-INDEX)
TO WS-HERO-PROFESSION
```

```
EVALUATE TRUE
WHEN WS-H-P-GUERRERO
MOVE "GUERRERO" TO WS-HMC-PROFESSION
WHEN WS-H-P-ARQUERO
MOVE "ARQUERO " TO WS-HMC-PROFESSION
WHEN WS-H-P-MAGO
MOVE " MAGO " TO WS-HMC-PROFESSION
END-EVALUATE
```

```
ADD 1 TO WS-AUX-NUMBER.
DISPLAY WS-HEROES-MENU-CONTENT
LINE WS-AUX-NUMBER COL 1.
*****
DISPLAY-HEROES-MENU.
PERFORM SET-LIST-HEROES-MENU-TO-ERROR.
PERFORM DISPLAY-HEROES-MENU-TITLE.
PERFORM DISPLAY-HEROES-MENU-CONTENT.
PERFORM DISPLAY-HEROES-MENU-FOOTER.
ACCEPT WS-H-OPTION LINE WS-ICSP-1-LINE COL WS-ICSP-1-COL.
```

```
IF NOT (1 <= WS-H-OPTION AND WS-H-OPTION <= WS-H-R-LENGTH)
THEN
SET WS-INVALID-OPTION TO TRUE
ELSE
SET WS-RESET-VALID-OPTION TO TRUE
END-IF
DISPLAY SS-CLEAR-SCREEN.
```

\*\*\*\*\*

DISPLAY-HEROES-MENU-TITLE.

DISPLAY WS-HEROES-MENU-TITLE LINE 1 COL 1.

\*\*\*\*\*

DISPLAY-HEROES-MENU-CONTENT.

MOVE WS-HEROES-MENU-TITLE-SHIFT TO WS-AUX-NUMBER.

ADD WS-HEROES-MENU-CONTENT-SHIFT TO WS-AUX-NUMBER.

PERFORM DISPLAY--WS-HEROES-R VARYING WS-H-R-INDEX

FROM 1 BY 1 UNTIL WS-H-R-INDEX > WS-H-R-LENGTH.

\*\*\*\*\*

DISPLAY-HEROES-MENU-FOOTER.

COMPUTE WS-AUX-NUMBER = WS-HEROES-MENU-TITLE-SHIFT

+ WS-HEROES-MENU-CONTENT-SHIFT + WS-H-R-LENGTH + 1.

DISPLAY WS-HEROES-MENU-FOOTER

LINE WS-AUX-NUMBER COL 1.

\*\*\*\*\*

SET-LIST-HEROES-MENU-TO-ERROR.

MOVE WS-VALID-OPTION TO WS-HM-ERROR.

\*\*\*\*\*

DISPLAY-MODIFY-HERO.

SET WS-MHM-OP-CONTINUE TO TRUE

SET WS-RESET-VALID-OPTION TO TRUE

PERFORM DISPLAY-MOD-HEROES-MENU UNTIL WS-MHM-OP-EXIT

SET WS-RESET-VALID-OPTION TO TRUE.

\*\*\*\*\*

PLAY.

PERFORM INIT--WS-MONSTERS-R--CONTENT

IF WS-H-R-CURRENT > 0 THEN

IF WS-M-R-LENGTH > 0 THEN

MOVE 1 TO WS-M-R-CURRENT

PERFORM UNTIL

NOT (WS-H-R-HP(WS-H-R-CURRENT) > 0

AND WS-M-R-CURRENT <= WS-M-R-LENGTH)

DISPLAY SS-CLEAR-SCREEN

PERFORM FIGHT-MONSTER

ADD 1 TO WS-M-R-CURRENT

END-PERFORM

```
IF WS-H-R-HP(WS-H-R-CURRENT) > 0 THEN
PERFORM WIN
ELSE
PERFORM LOSE
END-IF
ELSE
DISPLAY
"No quedan mas monstruos contra los que luchar"
LINE 22 COL 1
```

```
PERFORM PRESS-KEY-TO-CONTINUE
END-IF
ELSE
DISPLAY "Debes de seleccionar un heroe primero!"
LINE 22 COL 1
```

```
PERFORM PRESS-KEY-TO-CONTINUE
END-IF.
*****
FIGHT-MONSTER.
PERFORM UNTIL WS-H-R-HP(WS-H-R-CURRENT) = 0
OR WS-M-R-HP(WS-M-R-CURRENT) = 0
DISPLAY "LUCHA POR TU VIDA !!"
LINE 1 COL 1
DISPLAY "-----"
LINE 2 COL 1
DISPLAY "LUCHAS CONTRA EL MONSTRUO CON ID: "
LINE 4 COL 1
DISPLAY WS-M-R-PROFESSION(WS-M-R-CURRENT)
LINE 4 COL 35
DISPLAY ", CON FUERZA: "
LINE 4 COL 37
DISPLAY WS-M-R-STRENGTH(WS-M-R-CURRENT)
LINE 4 COL 51
DISPLAY "TIENES HP: "
LINE 5 COL 1
DISPLAY WS-H-R-HP(WS-H-R-CURRENT)
LINE 5 COL 12
DISPLAY ", CON FUERZA: "
```

LINE 5 COL 14

DISPLAY WS-H-R-STRENGTH(WS-H-R-CURRENT)

LINE 5 COL 28

IF WS-H-R-STRENGTH(WS-H-R-CURRENT)

> WS-M-R-STRENGTH(WS-M-R-CURRENT) THEN

COMPUTE WS-AUX-NUMBER =

WS-M-R-HP(WS-M-R-CURRENT)

- WS-H-R-STRENGTH(WS-H-R-CURRENT)

IF WS-AUX-NUMBER < 0 THEN

MOVE 0 TO WS-M-R-HP(WS-M-R-CURRENT)

ELSE

MOVE WS-AUX-NUMBER TO WS-M-R-HP(WS-M-R-CURRENT)

END-IF

DISPLAY "HAS HERIDO AL MONSTRUO, TIENE HP: "

LINE 6 COL 1

DISPLAY WS-M-R-HP(WS-M-R-CURRENT)

LINE 6 COL 35

ELSE

COMPUTE WS-AUX-NUMBER =

WS-H-R-HP(WS-H-R-CURRENT)

- WS-M-R-STRENGTH(WS-M-R-CURRENT)

IF WS-AUX-NUMBER < 0 THEN

MOVE 0 TO WS-H-R-HP(WS-H-R-CURRENT)

ELSE

MOVE WS-AUX-NUMBER TO WS-H-R-HP(WS-H-R-CURRENT)

END-IF

DISPLAY "TE HA HERIDO EL MONSTRUO, TIENES HP: "

LINE 6 COL 1

DISPLAY WS-H-R-HP(WS-H-R-CURRENT)

LINE 6 COL 38

END-IF

PERFORM FIGHT-MONSTER-ANIMATION

END-PERFORM.

\*\*\*\*\*

EXIT-GAME.

PERFORM DISPLAY-CREDITS-MOVE.

\* == [DISPLAY-MAIN-MENU] =====END=

\*\*\*\*\*

\* == [INIT--WS-HEROES-R--CONTENT] =====BEGIN=

INIT--WS-HEROES-R--CONTENT.

OPEN INPUT HEROES-FILE.

IF NOT WS-H-FS-OK THEN

PERFORM ERROR-OPENING-HEROES

ELSE

PERFORM SET--WS-HEROES-R--CONTENT

CLOSE HEROES-FILE

END-IF.

\*\*\*\*\*

SET--WS-HEROES-R--CONTENT.

MOVE 0 TO WS-H-R-LENGTH.

PERFORM READ-FILE-HEROES VARYING WS-H-R-INDEX FROM 1 BY 1

UNTIL WS-H-FS-EOF OR WS-H-R-INDEX > WS-MAX-HEROES.

\*\*\*\*\*

READ-FILE-HEROES.

READ HEROES-FILE INTO WS-HEROES-R(WS-H-R-INDEX)

AT END

SET WS-H-FS-EOF TO TRUE

NOT AT END

ADD 1 TO WS-H-R-LENGTH

END-READ.

\*\*\*\*\*

ERROR-OPENING-HEROES.

DISPLAY "["WS-GAME-NAME"] Fichero HEROES no disponible."

\* == [INIT--WS-HEROES-R--CONTENT] =====END=

\*\*\*\*\*

\* == [INIT--WS-MONSTERS-R--CONTENT] =====BEGIN=

INIT--WS-MONSTERS-R--CONTENT.

OPEN INPUT MONSTERS-FILE.

IF NOT WS-M-FS-OK THEN

PERFORM ERROR-OPENING-MONSTERS

ELSE

PERFORM SET--WS-MONSTERS-R--CONTENT

```
CLOSE MONSTERS-FILE
END-IF.
*****

SET--WS-MONSTERS-R--CONTENT.
MOVE 0 TO WS-M-R-LENGTH.
PERFORM READ-FILE-MONSTERS VARYING WS-M-R-INDEX FROM 1 BY 1
UNTIL WS-M-FS-EOF OR WS-M-R-INDEX > WS-MAX-MONSTERS.
*****

READ-FILE-MONSTERS.
READ MONSTERS-FILE INTO WS-MONSTERS-R(WS-M-R-INDEX)
AT END
SET WS-M-FS-EOF TO TRUE
NOT AT END
ADD 1 TO WS-M-R-LENGTH
END-READ.
*****

ERROR-OPENING-MONSTERS.
DISPLAY "["WS-GAME-NAME"] Fichero MONSTERS no disponible.".
* == [INIT--WS-MONSTERS-R--CONTENT] =====END=

*****

DISPLAY-MOD-HEROES-MENU.
MOVE WS-H-R-STRENGTH(WS-H-R-CURRENT) TO WS-MHM-C-STRENGTH.
MOVE WS-H-R-AGILITY(WS-H-R-CURRENT) TO WS-MHM-C-AGILITY.
MOVE WS-H-R-LEVEL(WS-H-R-CURRENT) TO WS-MHM-C-LEVEL.
MOVE WS-H-R-HP(WS-H-R-CURRENT) TO WS-MHM-C-HP.

PERFORM SET-MENU-ERROR.
DISPLAY WS-MHM-TITLE LINE 1 COL 1.

COMPUTE WS-AUX-NUMBER = WS-MHM-TITLE-SHIFT.
DISPLAY WS-MHM-CONTENT LINE WS-AUX-NUMBER COL 1.

COMPUTE WS-AUX-NUMBER = WS-MHM-TITLE-SHIFT + 4.
DISPLAY WS-MHM-FOOTER LINE WS-AUX-NUMBER COL 1.

SET WS-RESET-VALID-OPTION TO TRUE
ACCEPT WS-MHM-OPTION LINE WS-ICSP-1-LINE COL WS-ICSP-1-COL.
```

DISPLAY SS-CLEAR-SCREEN.

EVALUATE TRUE  
WHEN WS-MHM-OP-STRENGTH  
MOVE WS-H-R-STRENGTH(WS-H-R-CURRENT)  
TO WS-MHM-SEL-TIT-NEWVALUE

MOVE "Fuerza" TO WS-MHM-SEL-TIT-MODIFYING  
DISPLAY WS-MHM-SELECTION-TITLE LINE 1 COL 1

ACCEPT WS-H-R-STRENGTH(WS-H-R-CURRENT)  
LINE WS-ICSP-2-LINE COL WS-ICSP-2-COL  
WHEN WS-MHM-OP-AGILITY  
MOVE WS-H-R-AGILITY(WS-H-R-CURRENT)  
TO WS-MHM-SEL-TIT-NEWVALUE

MOVE "Agilidad" TO WS-MHM-SEL-TIT-MODIFYING  
DISPLAY WS-MHM-SELECTION-TITLE LINE 1 COL 1

ACCEPT WS-H-R-AGILITY(WS-H-R-CURRENT)  
LINE WS-ICSP-2-LINE COL WS-ICSP-2-COL  
WHEN WS-MHM-OP-LEVEL  
MOVE WS-H-R-LEVEL(WS-H-R-CURRENT)  
TO WS-MHM-SEL-TIT-NEWVALUE

MOVE "Nivel" TO WS-MHM-SEL-TIT-MODIFYING  
DISPLAY WS-MHM-SELECTION-TITLE LINE 1 COL 1

ACCEPT WS-H-R-LEVEL(WS-H-R-CURRENT)  
LINE WS-ICSP-2-LINE COL WS-ICSP-2-COL  
WHEN WS-MHM-OP-HP  
MOVE WS-H-R-HP(WS-H-R-CURRENT)  
TO WS-MHM-SEL-TIT-NEWVALUE

MOVE "Puntos Vida" TO WS-MHM-SEL-TIT-MODIFYING

DISPLAY WS-MHM-SELECTION-TITLE LINE 1 COL 1

ACCEPT WS-H-R-HP(WS-H-R-CURRENT)

LINE WS-ICSP-2-LINE COL WS-ICSP-2-COL

WHEN OTHER

SET WS-INVALID-OPTION TO TRUE

END-EVALUATE

DISPLAY SS-CLEAR-SCREEN.

\*\*\*\*\*

SET-MENU-ERROR.

MOVE WS-VALID-OPTION TO WS-MHM-ERROR.

\*\*\*\*\*

PAUSE.

ACCEPT WS-PM-NOW-1-DATE FROM DATE.

ACCEPT WS-PM-NOW-1-TIME FROM TIME.

MOVE 0 TO WS-PM-WRK-ONE-DAY.

PERFORM UNTIL WS-PM-DELTA-TIME > 00000050

ACCEPT WS-PM-NOW-2-DATE FROM DATE

IF WS-PM-NOW-2-DATE > WS-PM-NOW-1-DATE

MOVE 24000000 TO WS-PM-WRK-ONE-DAY

END-IF

ACCEPT WS-PM-NOW-2-TIME FROM TIME

COMPUTE WS-PM-DELTA-TIME = (WS-PM-NOW-2-TIME +  
WS-PM-WRK-ONE-DAY - WS-PM-NOW-1-TIME)

END-PERFORM.

PERFORM RESETEAR.

\*\*\*\*\*

RESETEAR.

MOVE 0 TO WS-PM-DELTA-TIME.

\*\*\*\*\*

INI--WS-IMG-FIGHT.

\* TODO : Read from file

MOVE " " TO WS-IMG-FIGHT-M(01).

MOVE " /-/--\ " TO WS-IMG-FIGHT-M(02).

MOVE " (@~@) )/\ " TO WS-IMG-FIGHT-M(03).

MOVE " \_\_\_/-- \ | " TO WS-IMG-FIGHT-M(04).

MOVE " (oo)\_\_\_ \_ )\_/ " TO WS-IMG-FIGHT-M(05).

MOVE " ^^\_\_\_/ \ " TO WS-IMG-FIGHT-M(06).

MOVE " \ |/-\ " TO WS-IMG-FIGHT-M(07).



```
MOVE " ( ) | " TO WS-IMG-FIGHT-M(08).
MOVE " | \_/ " TO WS-IMG-FIGHT-M(09).
```

```
MOVE " _____ " TO WS-IMG-FIGHT-S(01).
MOVE " / \ / \ " TO WS-IMG-FIGHT-S(02).
MOVE " , | ' | " TO WS-IMG-FIGHT-S(03).
MOVE " I __L_____ L__ " TO WS-IMG-FIGHT-S(04).
MOVE "O===IE_____/ ./____>" TO WS-IMG-FIGHT-S(05).
MOVE " I \. ./ " TO WS-IMG-FIGHT-S(06).
MOVE " ` \. ./ " TO WS-IMG-FIGHT-S(07).
MOVE " \ / " TO WS-IMG-FIGHT-S(08).
MOVE " ' " TO WS-IMG-FIGHT-S(09).
```

\*\*\*\*\*

```
FIGHT-MONSTER-ANIMATION.
PERFORM WS-MAX-ANIMATION-CYCLES TIMES
MOVE WS-INI-IMG-LINE TO WS-IMG-FIGHT-LINE-I
MOVE 1 TO WS-IMG-FIGHT-PHOTOGRAM
PERFORM WS-MAX-IMG-FIGHT-LENGTH TIMES
DISPLAY WS-IMG-FIGHT-M(WS-IMG-FIGHT-PHOTOGRAM)
AT LINE WS-IMG-FIGHT-LINE-I COL 10
ADD 1 TO WS-IMG-FIGHT-PHOTOGRAM
ADD 1 TO WS-IMG-FIGHT-LINE-I
END-PERFORM
PERFORM PAUSE
```

```
MOVE WS-INI-IMG-LINE TO WS-IMG-FIGHT-LINE-I
MOVE 1 TO WS-IMG-FIGHT-PHOTOGRAM
PERFORM WS-MAX-IMG-FIGHT-LENGTH TIMES
DISPLAY WS-IMG-FIGHT-S(WS-IMG-FIGHT-PHOTOGRAM)
AT LINE WS-IMG-FIGHT-LINE-I COL 10
ADD 1 TO WS-IMG-FIGHT-PHOTOGRAM
ADD 1 TO WS-IMG-FIGHT-LINE-I
END-PERFORM
PERFORM PAUSE
END-PERFORM.
```

\*\*\*\*\*

```
PRESS-KEY-TO-CONTINUE.
DISPLAY "Pulsa INTRO para continuar ... "
LINE 25 COL 1.
```

ACCEPT WS-AUX-ALPHA

LINE 25 COL 36.

\*\*\*\*\*

DISPLAY-INTRO.

DISPLAY SS-TITLE-1.

PERFORM PAUSE.

DISPLAY SS-TITLE-2.

PERFORM PAUSE.

DISPLAY SS-TITLE-3.

PERFORM PAUSE.

DISPLAY SS-TITLE-4.

ACCEPT SS-INTRO.

DISPLAY SS-CLEAR-SCREEN.

\*\*\*\*\*

DISPLAY-CREDITS-MOVE.

DISPLAY SS-CLEAR-SCREEN.

PERFORM VARYING WS-C-POS FROM 1 BY 1

UNTIL WS-C-POS > WS-MAX-ARR

MOVE WS-SCREEN-LINE-POS TO WS-C-SCREEN-LINE

PERFORM VARYING WS-C-I FROM WS-C-POS BY 1

UNTIL WS-C-I > WS-MAX-ARR

DISPLAY WS-C-ARR(WS-C-I) LINE WS-C-SCREEN-LINE COL 25

ADD 1 TO WS-C-SCREEN-LINE

END-PERFORM

COMPUTE WS-C-FINAL-POS = WS-C-POS - 1

PERFORM VARYING WS-C-I FROM 1 BY 1

UNTIL WS-C-I > WS-C-FINAL-POS

DISPLAY " "

LINE WS-C-SCREEN-LINE COL 25

ADD 1 TO WS-C-SCREEN-LINE

END-PERFORM

PERFORM PAUSE

END-PERFORM.

\*\*\*\*\*

WIN.

DISPLAY SS-CLEAR-SCREEN.

\*\*\*\*\*YOU

DISPLAY

"8b d8 ad8888ba 88 88"

AT LINE 2 COL 10.

```
DISPLAY
" Y8 8P d8b d8b 88 88"
AT LINE 3 COL 10.
DISPLAY
" Y8 8P d8 8b 88 88"
AT LINE 4 COL 10.
DISPLAY
" 8aaaa8 88 88 88 88"
AT LINE 5 COL 10.
DISPLAY
" 88 88 88 88 88"
AT LINE 6 COL 10.
DISPLAY
" 88 Y8 8P 88 88"
AT LINE 7 COL 10.
DISPLAY
" 88 Y8a a8P Y8a a8P"
AT LINE 8 COL 10.
DISPLAY
" 88 Y888888Y Y888888Y"
AT LINE 9 COL 10.
*****WIN!
DISPLAY
"I8 8 8I 88 888b 88 88"
AT LINE 12 COL 13.
DISPLAY
" 8b d8b d8 88 8888b 88 88"
AT LINE 13 COL 13.
DISPLAY
" 8 8 8 8 88 88 8b 88 88"
AT LINE 14 COL 13.
DISPLAY
" Y8 8P Y8 8P 88 88 8b 88 88"
AT LINE 15 COL 13.
DISPLAY
" 8b d8 8b d8 88 88 8b 88 88"
AT LINE 16 COL 13.
DISPLAY
" 8a a8 8a a8 88 88 8b 88"
AT LINE 17 COL 13.
```

```
DISPLAY
" 8a8 8a8 88 88 8888 aa"
AT LINE 18 COL 13.
DISPLAY
" 8 8 88 88 888 88"
AT LINE 19 COL 13.
DISPLAY "HAS GANADO!"
AT LINE 22 COL 35.
PERFORM PRESS-KEY-TO-CONTINUE.
DISPLAY SS-CLEAR-SCREEN.
*****
LOSE.
DISPLAY SS-CLEAR-SCREEN.
*****GAME
DISPLAY
" ad8888ba db 88b d88 888888888888"
AT LINE 2 COL 10.
DISPLAY
" d8 8b d88b 888b d888 88"
AT LINE 3 COL 10.
DISPLAY
"d8 d8 8b 88 8b d8 88 88"
AT LINE 4 COL 10.
DISPLAY
"88 d8 8b 88 8b d8 88 88aaaaa"
AT LINE 5 COL 10.
DISPLAY
"88 88888 d8YaaaaY8b 88 8b d8 88 88"
AT LINE 6 COL 10.
DISPLAY
"Y8 88 d8 8b 88 8b d8 88 88"
AT LINE 7 COL 10.
DISPLAY
" Y8a a88 d8 8b 88 888 88 88"
AT LINE 8 COL 10.
DISPLAY
" Y88888888P d8 8b 88 8 88 888888888888"
AT LINE 9 COL 10.
*****OVER
DISPLAY
```

```
" ad8888ba 8b d8 888888888888 88888888ba"
AT LINE 12 COL 13.
DISPLAY
" d8 8b 8b d8 88 88 8b"
AT LINE 13 COL 13.
DISPLAY
"d8 8b 8b d8 88 88 8P"
AT LINE 14 COL 13.
DISPLAY
"88 88 8b d8 88aaaaa 88aaaaaa8P"
AT LINE 15 COL 13.
DISPLAY
"88 88 8b d8 88 88 88"
AT LINE 16 COL 13.
DISPLAY
"Y8 8P 8b d8 88 88 8b"
AT LINE 17 COL 13.
DISPLAY
" Y8a a8P 888 88 88 8b"
AT LINE 18 COL 13.
DISPLAY
" Y8888888Y 8 888888888888 88 8b"
AT LINE 19 COL 13.
DISPLAY "HAS PERDIDO!"
AT LINE 22 COL 35.
PERFORM PRESS-KEY-TO-CONTINUE.
DISPLAY SS-CLEAR-SCREEN.
*****
INI-CREDITS-ARRAY.
MOVE " ORIGINAL CONCEPT " TO WS-C-ARR(40).
MOVE " ----- " TO WS-C-ARR(41).
MOVE " Albert Llaurodo " TO WS-C-ARR(42).
MOVE " " TO WS-C-ARR(43).
MOVE " DESIGNERS " TO WS-C-ARR(44).
MOVE " ----- " TO WS-C-ARR(45).
MOVE " Juan Ramon Espuny " TO WS-C-ARR(46).
MOVE " Juan Jose Sanchez " TO WS-C-ARR(47).
MOVE " " TO WS-C-ARR(48).
MOVE " LEVEL / SCENARIO DESIGN " TO WS-C-ARR(49).
MOVE " ----- " TO WS-C-ARR(50).
```

```
MOVE " Juan Jose Sanchez " TO WS-C-ARR(51).
MOVE " Juan Ramon Espuny " TO WS-C-ARR(52).
MOVE " " TO WS-C-ARR(53).
MOVE " PROGRAMMING " TO WS-C-ARR(54).
MOVE " ----- " TO WS-C-ARR(55).
MOVE " Juan Jose Sanchez " TO WS-C-ARR(56).
MOVE " Juan Ramon Espuny " TO WS-C-ARR(57).
MOVE " " TO WS-C-ARR(58).
MOVE " LEVEL / SCENARIO DESIGN " TO WS-C-ARR(59).
MOVE " ----- " TO WS-C-ARR(60).
MOVE " Lead Programming: " TO WS-C-ARR(61).
MOVE " Juan Ramon Espuny " TO WS-C-ARR(62).
MOVE " Additional Programming: " TO WS-C-ARR(63).
MOVE " Juan Jose Sanchez " TO WS-C-ARR(64).
MOVE " " TO WS-C-ARR(65).
MOVE "GAME ENGINE / DEVELOPMENT SYSTEM " TO WS-C-ARR(66).
MOVE "----- " TO WS-C-ARR(67).
MOVE " OpenCobol IDE " TO WS-C-ARR(68).
MOVE " " TO WS-C-ARR(69).
MOVE " GRAPHICS PROGRAMMING " TO WS-C-ARR(70).
MOVE " ----- " TO WS-C-ARR(71).
MOVE " Juan Jose Sanchez " TO WS-C-ARR(72).
MOVE " Juan Ramon Espuny " TO WS-C-ARR(73).
MOVE " " TO WS-C-ARR(74).
MOVE " SOUND PROGRAMMING " TO WS-C-ARR(75).
MOVE " ----- " TO WS-C-ARR(76).
MOVE " Juan Jose Sanchez " TO WS-C-ARR(77).
MOVE " " TO WS-C-ARR(78).
MOVE " " TO WS-C-ARR(79).
MOVE " Thanks for playing! " TO WS-C-ARR(80).
MOVE " " TO WS-C-ARR(81).
MOVE " " TO WS-C-ARR(82).
MOVE "Special Thanks to Albert Llaurado" TO WS-C-ARR(83).
*****
STOP-RUN.
STOP RUN.
END PROGRAM DUNGCRWL.
```

## **6. Conclusión**

Ha quedado un buen proyecto y una buena experiencia de trabajo, con este proyecto. Al final, todo se resume en una buena cooperación por cada miembro del equipo y la diversa creatividad de cada uno.