Assignment Two

- Write a program
- Write a report

Programming Assignment Two Content

I. Show a menu
II. Select an option
III. Perform the option
IV. Repeat 1 until quit the program

DO NOT CHEAT in programming. You should learn on your own.

Penalties

- If one of the following items:
  - your name, student ID or email address

  does not appear at the top of your file, ***you will receive a score of ZERO.***
- ***If your file name is incorrect, you will receive a score of ZERO.***
- ***You MUST WORK INDEPENDENTLY for the project. If you copy / cheat in the project, the scores of all students involved are ZERO.***
- Late submission. Each day 10% deduction.

Show a menu [5%]

[1%] The menu content:

1) Change ship color
2) Show a frame around the screen rectangular area
3) Play now!!!
4) Show author information
5) Quit game ☺

Please enter an option……

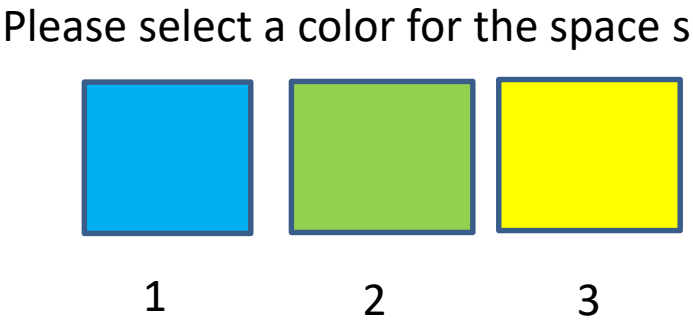
Note: You must use ReadKey to handle the option input.

[4%] There is a frame around the menu items. The color of the frame is the color of the space ship. By the default, the color is yellow.

If an option is selected, perform the option. After that press a key to go back to show the menu.

Option 1) Change the space ship color [20%]

- [0%] Clear the screen.
- [2%] Show a message at middle top of the screen:
  “Please select a color for the space ship.
- [9%] Show three rectanges with different colors. The dimension of each rectangle is at least 3x2 (width x height).
- [4%] Show the key number below each rectangle.
- [4%] Use ReadKey to get the user’s input. Play a sound after the user makes a selection.
- [1%] After the user select the color, go back to the main menu.



Option
2) Show a frame [15%]

Draw a frame around the screen rectangular area. A frame is consisted of a set of characters.

The screen size must be larger than 80x22 (width x height)

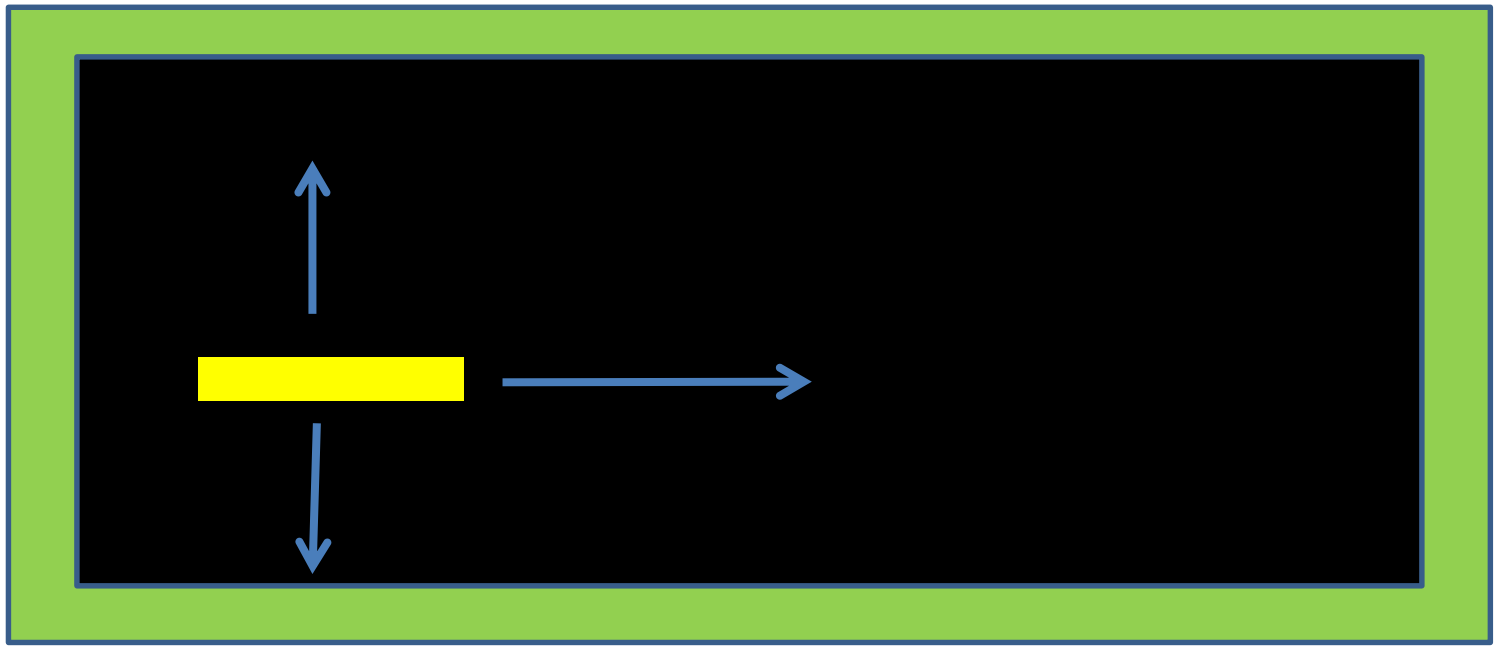
- [10%] The frame is drawn in counter-clockwise manner, starting from the upper left corner.
- [1%] The color of the frame is the spaceship color.
- The background color is black.
- [4%] We should be able to see how the frame is drawn.
- Thus, a delay should be added before showing a character of the frame. A 50-msec delay is suggested.

Option
3) Play a game [60%]

- [1%] Clear the screen. Screen size must be at least 80x22 (width x height).
- [4%] The space ship is set to the space ship color. The dimension of the space ship is 3x1 (width x height).
- [5%] Draw a frame whose color is the color of the spaceship.
- [15%] The space ship move from left to right.
- [20%] Use the keys ‘e’ and ‘c’ to control the space shp to move up and down, respectively.
- [5%] After the space ship reaches to the right side of the screen, go back to the main menu.
- [5%] Use a delay about 50msec.
- [5%] Press Spacebar to go back to the main menu instantly.

Avoid the blinking effect.

Option
3) Play a game



Option
4) Show author information
(MUST BE DONE
or you will receive a score of zero.)

Show

- Student ID
- Student name
- Student email address

Option

5) quit game

(MUST BE DONE

or deduce 10%.)

Submission

DO NOT CHEAT in programming. You should learn on your own.

1. Upload your sorce code to nctu E3 platform. Store source code in a folder. The folder should **contain a report and the main asm file**.

   The source code must be well aligned and documented.

   - **The asm file name must be: asm_StudentID.asm**
   - For example, if your ID is 123456789, then the file name must be asm02_123456789.asm And the folder name must be asm02_123456789

   - **At the top of the .asm file, you must fill out your name, student ID and email.**

2. **A hardcopy report must be submitted in class.**

Student Name:

Student ID:

Student email address:

Assignment Two Report

Report format

[10%] Introduction [at least 100 words]

WORD COUNT:_____ [Must be filled or zero score]

//Write down the purpose(s) of this program… (remove this line or zero score)

[10%] Structure Chart [at least 10 components]

//Draw the structure chart (remove this line or zero score)

[10%] Flow Chart

//Draw the flow chart diagram (remove this line or zero score)

[10%] System Architecture [**at least 100 words]**

WORD COUNT:_____ [Must be filled or zero score]

//Describe the system (remove this line or zero score)

[30%] The approach [at least 300 words]

WORD COUNT:_____ [Must be filled or zero score]

//How do you implement the program (remove this line or zero score)

[20%] Discussion/Experiments [at least 200 words]

WORD COUNT:_____ [Must be filled or zero score]

//Write down what you want to share with us (remove this line or zero score)

[10%] Conclusion [at least 100 words]

WORD COUNT:_____ [Must be filled or zero score]

//Summary: write down what you have learnt…. (remove this line or zero score)

// What experiences that you want to share with others. (remove this line or zero score)

The following instructions may be used:
inc dec sub neg add xchg
jmp loop je ja jb jg jl cmp
and more …

The following procedures may be used:
Clrscr
GotoXY
SetTextureColor
ReadKey
ReadInt (defined in Irvine32.inc)
ReadDec
WriteInt
WriteDec
WriteString
mWriteln (defined in macros.inc)

and more ……

Directives

- OFFSET
- LENGTHOF
- SIZEOF
- TYPE
- PTR

END