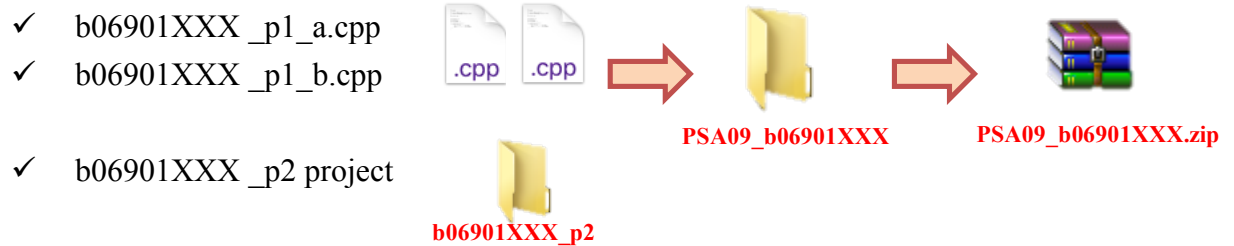# Programming Session Assignment 09

2017/12/05　by TA 陳姿玲

REQUIRED FILES

Please **compress a folder** named **PSA09_b06901XXX** (student ID) that contains the following files:

- ✓ b06901XXX _p1_a.cpp
- ✓ b06901XXX _p1_b.cpp

- ✓ b06901XXX _p2 project

PSA09_b06901XXX **PSA09_b06901XXX.zip**

b06901XXX_p2

Do not submit executable files (.exe). Files with names in wrong format will not be graded. In your .cpp files, we suggest you write comments in details as much as you can. It will be good for TAs to read your code and for your future reference and maintenance. (Due date: 12/06 06:00)

PROBLEM DESCRIPTION

1. **[Required file: b06901XXX _p1_a.cpp, b06901XXX _p1_b.cpp]**

   The given PSA09_P1_sample.cpp is the Poker Dealer program without using any structure and class. Proceed with the following two different steps and learn to rewrite the program by using structure and class:

   (a) Create a structure called **PokerData** that contains the integer array deck[][]. Rewrite PSA09_P1_sample.cpp such that the two functions **shuffle**() and **deal**() can accept the structure **PokerData** as one of the input arguments.

   (b) Create a class called **PokerDealer** that contain the integer array deck[][] in PSA09_P1_sample.cpp and two public member functions **shuffle()** and **deal()** to do the same thing.

   Note that **shuffle()** should shuffle the 52 poker cards and the **deal()** should deal the cards to four players. The output of the program should have the following format:

Note:
- ✓ s : present "spades", h : present "hearts", c : present "clubs", d : present "diamonds", T : present "10"

Format:

```
Cards for Player 1:
5s   4s   8h   Ah   Js   6d   Ks   Qd   Kc   4c   9d   Td   Qc
Cards for Player 2:
Jh   6c   7s   As   3s   6s   9s   Th   Qh   8c   4d   2d   6h
Cards for Player 3:
7d   2h   4h   7h   5c   5h   Ts   Qs   Jd   Ac   5d   8s   3d
Cards for Player 4:
9c   Kd   Ad   2c   Tc   2s   Jc   7c   8d   Kh   9h   3h   3c
```

2. **[Required file: b06901XXX _p2 project]**

   First, download and install "**SDL_image**" which allows you do things like loading image files besides BMP, render TTF fonts, and playing music. Second, write a program that puts four pictures into the 480x480 screen as follows:

   Four pictures :

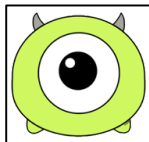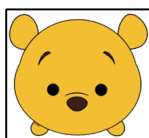   tsum1.png
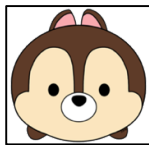
   tsum2.png

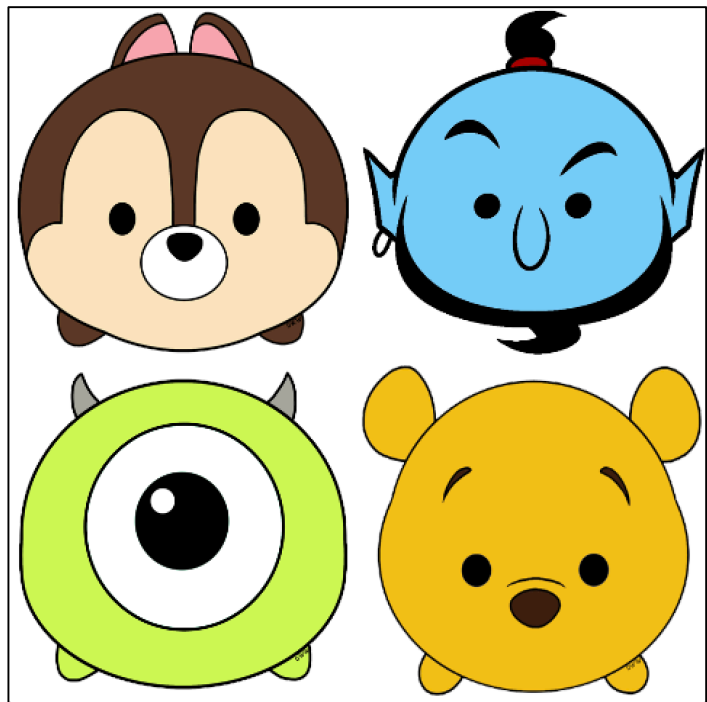

   tsum3.png

   tsum4.png

   SCREEN

   Instead of writing all codes in one big file, use the following steps to create a static library and link the library in your main file:

Step1

Write the program as usual. Then, move all functions except main() into "**mylib.cpp**", and move the main function in "**main.cpp**"

Step2

Declare all function and variables to be used by main() in "**mylib.h**" Note that it is better to put the variable "definition" only in "mylib.cpp" and variable "declaration" (use **extern**) in "mylib.h"

Step3

Make "mylib.cpp" and "mylib.h" into a static library "**mylib.a**"

Step4

Include **only** "**mylib.h**" in "**main.cpp**" and compile the program by linking "mylib.a" with main.o to create the final exe file.

Note:
- ✓ The SDL_image download and install :
  http://lazyfoo.net/tutorials/SDL/06_extension_libraries_and_loading_other_image_formats/index.php
- ✓ Please put the image folder and the execution file together so that you can load pictures to the screen when you execute the program. (The path of pictures is "image/xxx.png")
- ✓ You can find the sample code at "SDL Tutorials" :
  http://lazyfoo.net/tutorials/SDL/09_the_viewport/index.php
- ✓ In this problem you need to submit main.cpp, mylib.h, mylib.a in b06901XXX_p2 folder