

C++ Programming	Student number	21300691
Homework 1	Name	Cheung, Won Sik

```

#include <iostream>
#include <iomanip>
#include <cstdlib>
#include <string>
using namespace std; // Or you can use std::

//Number of menu
#define OPTIONNUM 5

#define ORDER1 "MC Donalds Hamburger"
#define ORDER2 "Lotteria Hamburger"
#define ORDER3 "Burger King Hamburger"
#define ORDER4 "Popeyes Hamburger"
#define ORDER5 "Mister Pizza"

#define PRICE1 3000
#define PRICE2 4000
#define PRICE3 3500
#define PRICE4 4700
#define PRICE5 5000

// Initialize array of order and price
const char* order[OPTIONNUM] = {ORDER1, ORDER2, ORDER3, ORDER4, ORDER5};
const int price[OPTIONNUM] = {PRICE1, PRICE2, PRICE3, PRICE4, PRICE5};

```

Header file, macro variable and constant.

cstdlib for built in function itoa() that make integer to string.

I define order and price by using #define because we didn't study structure in cpp. By using define macro, it was easy to insert order and price.

And insert them to const array.

```

void printMenu(); //print menu
void printLine(string str); //print line
void printOrdMenu(); // print menu board
void printWhiteSpace(); // print white space
int orderMenu(); // return order
void showPrice(int ord); // return price of user choose

int main(){

    //print menu
    printMenu();

    while(1){
        int ord = orderMenu();
        if(ord == 0){
            cout<<"Good bye~~"<<endl;
            break;
        }
        else
            showPrice(ord);
    }
    return 0;
}

```

There are 6 function I used.

Main function firstly shows menu board using prinMenu function.

Second, get order from users. If order is 0, print goodbye. If order is menu number than show price and take order again.

```

//print menu show main menu board
void printMenu(){
    cout<<"*-----*"<<endl;
    printWhiteSpace();
    cout<<"|"<<setw(27)<<"Choose Hamburger"; cout<<setw(12)<<"|"<<endl;
    printWhiteSpace();
    printOrdMenu();
    printWhiteSpace();
    cout<<"*-----*"<<endl;
}

```

Print menu function show main menu board.

And it use printWhiteSpace, printOrdMenu.

```

void printOrdMenu(){
    for(int i=0; i<OPTIONNUM; i++){
        //make number to string
        char intStr[10];
        itoa(i+1, intStr, 10);
        string numstr = intStr;

        //make price to string
        itoa(price[i], intStr, 10);
        string pristr = intStr;

        //call printLine function that made by cout
        printLine(numstr + ". " + order[i]+"    "+pristr+"won");
    }
}

void printLine(string str){
    cout<<"| "<<str<<setw(39-str.length())<<"| "<<endl;
}

void printWhiteSpace(){
    cout<<"| "<<setw(39)<<"| "<<endl;
}

```

PrintOrdMenu show menu board and use itoa function to number to string.

And it uses printLine function which use cout, print order and price.

PrintWhiteSpace function print white space to make gap in menu.

```

int orderMenu(){
    int ord = -1;

    while(1){
        cout<<endl<<"Select Number(0 to exit): ";
        cin>>ord;
        cout<<endl;

        if(ord>=0 && ord<=OPTIONNUM)
            break;
        else
            cout<<"WARNING: Wrong Input"<<endl;
    }
    return ord;
}

void showPrice(int ord){
    cout<<"You order "<<order[ord-1]<<" : "<<price[ord-1]<<" won"<<endl;
}

```

OrderMenu function get order from user and check is this valid. Finally it returns order.

ShowPrice function print user's order and it's price.

result

```
*-----*
|
|          Choose Hamburger
|
| 1. MC Donalds Hamburger    3000won
| 2. Lotteria Hamburger     4000won
| 3. Burger King Hamburger   3500won
| 4. Popeyes Hamburger       4700won
| 5. Mister Pizza           5000won
|
|-----|
Select Number(0 to exit): 1
You order MC Donalds Hamburger : 3000 won
Select Number(0 to exit): 2
You order Lotteria Hamburger : 4000 won
Select Number(0 to exit): 3
You order Burger King Hamburger : 3500 won
Select Number(0 to exit): 4
You order Popeyes Hamburger : 4700 won
Select Number(0 to exit): 5
You order Mister Pizza : 5000 won
Select Number(0 to exit): 6
WARNING: Wrong Input
Select Number(0 to exit): -1
WARNING: Wrong Input
Select Number(0 to exit): 0
Good bye~~
계속하려면 아무 키나 누르십시오 . . .
```