Quiz 5

Due Date: 21:30, May 5, 2016

1 Problem 1

In this part, you need to implement a function **sort**.
Note that sorting condition as following:

- even numbers are in front of odd ones
- even and odd numbers arrange from largest one to smallest one respectively.

p1.hpp

```
const int size=10;

void sort(int arr[]){
        //add here
}
```

main1.cpp

```
#include<iostream>
#include "p1.hpp"

int main(){
        int i;
        int num[size]={1,14,3,7,9,11,7,2,19,20};
        sort(num);
        std::cout<<"Sorted result: ";
        for(i=0;i<size;i++){
                std::cout<<num[i]<<" ";
        }
        std::cout<<std::endl;
        return 0;
}
```

1.1 Sample Output

```
Sorted result: 20 14 2 19 11 9 7 7 3 1
```

2 Problem 2

In this part, you need to implement a class **Stack**. The member functions of **Stack** should be implemented exactly as definition.

p2.hpp

```
#include<iostream>
template<class Type, int MaxSize>
class Stack{
        //variables you need.
public:
        Stack(); //constructor of class Stack.
        void push(Type);//push function.
        Type pop();     //pop function.
        bool empty();   //return true if there has nothing in Stack.
        bool full();    //return true if Stack is full.
        void dump();    //print the items of Stack.
};
```

main2.cpp

```
#include "p2.hpp"

int main(){
        Stack<int,9> s;
        for(int i=0;i<10;i++)
                s.push(i);
        s.dump();
        return 0;
}
```

2.1 Sample Output

```
Stack is already full.
8 7 6 5 4 3 2 1 0
```

3 How to compile the code at workstation?

You can use this command to compile the code:

```
$ g++ -std=c++14 main1.cpp -o main -Wall -Wextra -pedantic -g3
```

4 How to submit the assignment?

Just upload **p1.hpp** and **p2.hpp** to the **e-Campus (E3)** website and do not rename the file or put in into any directory. You will get no credit if you don't follow the rule. Note: You just can upload the file to e3 **ONCE**!!