(a)

```
#include <iostream>
#include <stdexcept>
using namespace std;

int getArrayElement(const int array[],const int len ,const int
index) throw(logic_error);
const int LEN = 10;
int main()
{
	int array [LEN] = {0};
	for(int i = 0; i < LEN; i++)
		cin >> array[i];
	int index = 0;
	cin >> index;
	int result = 0;
	try
	{
		result = getArrayElement(array , LEN, index);
		cout << result << endl;
	}
	catch(logic_error e)
	{
		cout << "Bad index !\n";
	}
	return 0;
}
int getArrayElement(const int array[],const int len ,const int
index) throw(logic_error)
{
	if(0 <= index && index < len)
		return array[index];
	else
	{
		throw logic_error("out_of_range");
	}
}
```

(b)

```
#include <iostream>
#include <stdexcept>
using namespace std;

template <typename aType>
aType getArrayElement(const aType array[],const int len ,const
int index) throw(logic_error);

const int LEN = 10;

int main()
{
	double array [LEN] = {0};
	for(int i = 0; i < LEN; i++)
		cin >> array[i];
	int index = 0;
	cin >> index;
	double result = 0;
	try
	{
		result = getArrayElement(array , LEN, index);
		cout << result << endl;
	}
	catch(logic_error e)
	{
		cout << "Bad index !\n";
	}
	return 0;
}
template <typename aType>
aType getArrayElement(const aType array[],const int len ,const
int index) throw(logic_error)
{
	if(0 <= index && index < len)
		return array[index];
	else
	{
		throw logic_error("out_of_range");
	}
}
```

(c)

```
#include <iostream>
#include <stdexcept>
using namespace std;

template <typename aType>
aType getArrayElement(const aType array[],const int len ,const
int index) throw(logic_error);

const int LEN = 10;

int main()
{
	double array [LEN] = {0};
	for(int i = 0; i < LEN; i++)
		cin >> array[i];
	int index = 0;
	cin >> index;
	double result = 0;
	try
	{
		result = getArrayElement(array , LEN, index);
		cout << result << endl;
	}
	catch(logic_error e)
	{
		cout << "Bad index !\n";
	}
	return 0;
}
template <typename aType>
aType getArrayElement(const aType array[],const int len ,const
int index) throw(logic_error)
{
	int modin = index;
	if(index < 0)
	{
		modin += len;
	}
	if(-len <= index && index < len)
		return array[modin];
	else
	{
		throw logic_error("out_of_range");
	}
}
```

(d)

可以正常運作，不用再多寫東西\。