(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\。