Cpp笔试题目（建议时间10分钟） 测试者（姓名 时间 ）

1、请阅读下面的代码，回答相应的问题：

#include <list>

#include <set>

#include <string>

#include <boost/shared\_ptr.hpp>

#include <boost/weak\_ptr.hpp>

#include <boost/make\_shared.hpp>

 typedef list<boost::shared\_ptr<CPin>> [lstPins](file:///D:\myProjects\smart.esd.src.output\html_by_doxygen\class_c_net.html#a16b91a352c28e80101a54d2a0fbc377e);

 set<string> [setString](file:///D:\myProjects\smart.esd.src.output\html_by_doxygen\class_c_net.html#a45064eb9094a1785da16e8a3fc39fdc0);

void [CNet::addPin](file:///D:\myProjects\smart.esd.src.output\html_by_doxygen\class_c_net.html#a22984fde0411e39380fcaf5c0fb749e1)([PinPtr](file:///D:\myProjects\smart.esd.src.output\html_by_doxygen\_data_model_8h.html#acd9022249b17340517a0610d6b14fd12) pPin)

 {

  if (![exist](file:///D:\myProjects\smart.esd.src.output\html_by_doxygen\class_c_net.html#aeaa4f152eb47b1bbf61c9b702094d8e0)(pPin))  {

  [lstPins](file:///D:\myProjects\smart.esd.src.output\html_by_doxygen\class_c_net.html#a16b91a352c28e80101a54d2a0fbc377e).push\_back(pPin);

  string instName = (pPin->getDevice())->[getName](file:///D:\\myProjects\\smart.esd.src.output\\html_by_doxygen\\class_c_element.html" \l "a22d0a3019de30dc0a6eca7b1e38ddf6c)();

  int portNum = pPin->getPortIndex();

  string [strName](file:///D:\myProjects\smart.esd.src.output\html_by_doxygen\class_c_element.html#a272b97635b16489abab25bc368b18333) = instName + boost::lexical\_cast<string>(portNum);

  [setString](file:///D:\myProjects\smart.esd.src.output\html_by_doxygen\class_c_net.html#a45064eb9094a1785da16e8a3fc39fdc0).insert(strName);

  }

  else  {

 #ifdef DEBUG\_INFO

  //printlog([CINFO](file:///D:\\myProjects\\smart.esd.src.output\\html_by_doxygen\\mkdesigncontext_2qslog_2printlog_8h.html" \l "a2c80ef8118064ca303cae1af03cbf93f), " net: " + getName + " pin: " + pPin->getName() + " existed !");

  cout << " net: " << getName() << " pin: " << pPin->getName() << " existed !"<< endl;

 #endif

  }

 }

 bool [CNet::exist](file:///D:\myProjects\smart.esd.src.output\html_by_doxygen\class_c_net.html#aeaa4f152eb47b1bbf61c9b702094d8e0)([PinPtr](file:///D:\myProjects\smart.esd.src.output\html_by_doxygen\_data_model_8h.html#acd9022249b17340517a0610d6b14fd12) pPin)

 {

  string instName = (pPin->getDevice())->[getName](file:///D:\\myProjects\\smart.esd.src.output\\html_by_doxygen\\class_c_element.html" \l "a22d0a3019de30dc0a6eca7b1e38ddf6c)();

  int portNum = pPin->getPortIndex();

  if ([setString](file:///D:\\myProjects\\smart.esd.src.output\\html_by_doxygen\\class_c_net.html" \l "a45064eb9094a1785da16e8a3fc39fdc0).find(instName+boost::lexical\_cast<string>(portNum)) != [setString](file:///D:\myProjects\smart.esd.src.output\html_by_doxygen\class_c_net.html#a45064eb9094a1785da16e8a3fc39fdc0).end())

  return true;

  else

  return false;

 }

1. 请问[CNet::exist](file:///D:\\myProjects\\smart.esd.src.output\\html_by_doxygen\\class_c_net.html" \l "aeaa4f152eb47b1bbf61c9b702094d8e0)([PinPtr](file:///D:\myProjects\smart.esd.src.output\html_by_doxygen\_data_model_8h.html#acd9022249b17340517a0610d6b14fd12) pPin)函数的时间复杂度和空间复杂度分别是多少？
2. 请问[CNet::addPin](file:///D:\\myProjects\\smart.esd.src.output\\html_by_doxygen\\class_c_net.html" \l "a22984fde0411e39380fcaf5c0fb749e1)([PinPtr](file:///D:\myProjects\smart.esd.src.output\html_by_doxygen\_data_model_8h.html#acd9022249b17340517a0610d6b14fd12) pPin)函数中cout的输出结果是什么？
3. 如果希望对exist函数能够进行时间和空间优化，请问可以怎么优化？

2. 请阅读下面的代码，回答相应的问题：

 #include <QDialog>

const int COLUMNCOUNT = 9; // 显示表格的列数

const int START = 0; //每列的编号

const int END = 1;

const int PATH = 2;

const int VT1 = 3;

const int RON = 4;

const int IT2 = 5;

const int INVVT1 = 6;

const int INVRON = 7;

const int INVIT2 = 8;

ui->basePathTableWidget->setHorizontalHeaderLabels(QStringList() << "Start" << "End" << "Path" << "A->K\nVt1" << "A->K\nRon" << "A->K\nIt2" /\*<< "A->K\nVh" \*/ << "K->A\nVt1" << "K->A\nRon" << "K->A\nIt2"/\* << "K->A\nVh"\*/);

  ui->basePathTableWidget->setColumnWidth(0, 60);

  ui->basePathTableWidget->setColumnWidth(1, 60);

  ui->basePathTableWidget->setColumnWidth(2, 270);

  ui->basePathTableWidget->setColumnWidth(3, 60);

  ui->basePathTableWidget->setColumnWidth(4, 60);

  ui->basePathTableWidget->setColumnWidth(5, 60);

  ui->basePathTableWidget->setColumnWidth(6, 60);

  ui->basePathTableWidget->setColumnWidth(7, 60);

  ui->basePathTableWidget->setColumnWidth(8, 60);

  //ui->basePathTableWidget->setColumnWidth(9, 60);

  //ui->basePathTableWidget->setColumnWidth(10, 60);

1. 请问上述的编码中，有哪些编码的问题和隐患？
2. 如果请你优化，你会采用什么方法进行优化？
3. 请问编码过程中的“魔术数字，字面常量”，通常采取的做法是什么？
4. 如果请你在这段代码上添加注释，对这段代码进行说明，你会怎么进行注释说明？
5. 如果注释的中文提交以后，变成了乱码，请问应该是用什么文件格式进行提交？