**202211341 컴퓨터공학부 이윤희**

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| **Question1** |
| **Source code** |
| #include<stdexcept>  #include<iostream>  #include<iomanip>  #include<string>  using namespace std;  class SExcept :public bad\_alloc {  public:  SExcept();  const char\* what() const throw();  };  SExcept::SExcept()  :bad\_alloc() {  }  const char\* SExcept::what() const throw() {  return "Seconds need to be between 0 to 59.";  }  class MExcept:public out\_of\_range {  public:  MExcept(const string& message);  };  MExcept::MExcept(const string& message)  :out\_of\_range(message) {  }  class HExcept :public exception {  private:  bool error;  public:  HExcept(bool error);  string message();  };  HExcept::HExcept(bool e) :  error(e), exception("") {  }  string HExcept::message() {  if (error) {  return "Hours cannot be negative.";  }  }  class Seconds {  private:  int hour;  int minutes;  int seconds;  public:  Seconds(int h, int m, int s);  int getSecond() const;  };  Seconds::Seconds(int h, int m,int s)  try : hour(h), minutes(m), seconds(s){  if (hour < 0) {  throw HExcept(1);  }  if (!(minutes >= 0 && minutes < 60)) {  throw MExcept("Minutes need to be between 0 to 59.");  }  if (!(seconds >= 0 && seconds < 60)) {  throw SExcept();  }  }  catch(...){  throw;  }  int Seconds::getSecond() const {  return hour \* 3600 + minutes \* 60 + seconds;  }  int main(void) {  int h, m, s;  for (int i = 0; i < 8; i++) {  cout << "Enter data for set " << i + 1 << " (hour minutes seconds): ";  cin >> h; cin >> m; cin >> s;  try {  Seconds result(h, m, s);  cout << "Result for set " << i + 1 << ": "<<result.getSecond() << " seconds." << endl;  }  catch (HExcept he) {  cout << "Exception for set " << i + 1 << ": " << he.message()<<endl;  }  catch (MExcept me) {  cout << "Exception for set " << i + 1 << ": " << me.what() << endl;  }  catch (SExcept se) {  cout << "Exception for set " << i + 1 << ": " << se.what() << endl;  }  catch (...) {  cout << "Exception for set " << i + 1 << endl;  }  }  return 0;  } |
| **Output** |
| **Question2** |
| **Source code** |
| #include<stdexcept>  #include<iostream>  #include<string>  using namespace std;  int main(void) {  int index; char c;  string str = "ABCDEFGHIJKLMNOPQRSTUVWXYZ";  for (int i = 0; i < 8; i++) {  cout << "Enter the index of character to see: ";  cin >> index;  try {  c = str.at(index - 1);  cout << "Character is: ";  cout << c <<endl;  }  catch (out\_of\_range) {  cout << "There is no character at position ";  cout << index << " in English alphabet!" << endl;  }  }  } |
| **Output** |