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MTH 3300
Spring 2017
Professor Evan Fink
Homework 4

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1.
```cpp
#include <iostream>
#include <stdlib.h>
#include <fstream>

using namespace std;

int main(){
  int a, b, c;

  ifstream dataFile;
  dataFile.open("data.txt");

  dataFile >> a;
  dataFile >> b;
  dataFile >> c;

  dataFile.close();

  return 0;
}
```

2.
```cpp
#include <iostream>
#include <stdlib.h>
#include <fstream>

using namespace std;

int main(){
  string firstWord; secondWord;

  ifstream text;
  text.open("mozart.txt");

  fileIn >> firstWord;
  fileIn >> secondWord;

  cout << secondWord << endl;

  text.close();

  return 0;
}
```

3.
```cpp
#include <iostream>
```

```
#include <stdlib.h>
#include <fstream>
#include <iomanip>

using namespace std;

int main(){
  int a;

  ifstream numText;
  numText.open("numbers.txt");

  fileIn >> a;

  ofstream digit;
  digit.open("three.txt");
  digit << setprecision(3) << fixed << a << endl;
  digit.close();

  return 0;
}
```

4.

```
#include <iostream>
#include <stdlib.h>
#include <fstream>

using namespace std;

int main(){
  int a, b, c;

  ifstream thatWay;
  thatWay.open("forward.txt");

  fileIn >> a;
  fileIn >> b;
  fileIn >> c;

  ofstream thisWay;
  thisWay.open("backward.txt");

  thisWay << c << b << a << endl;

  thatWay.close();
  thisWay.close();

  return 0;
}
```

5.

```
#include <iostream>
#include <stdlib.h>
#include <fstream>

```

```
using namespace std;

int main(){
  int a, b, c;

  ifstream nums;
  nums.open("numbers.txt");

  cin >> a;
  cin >> b;
  cin >> c;

  nums << a + b + c << endl;

  nums.close();

  return 0;
}
```

6.

```
#include <iostream>
#include <stdlib.h>
#include <fstream>

using namespace std;

int main(){
  int a;

  ifstream nums;
  nums.open("numbers.txt");

  fileIn >> a;

  cout << a + 1 << endl;

  nums.close();

  return 0;
}
```

7.

```
#include <iostream>
#include <stdlib.h>
#include <fstream>

using namespace std;

int main(){
  int a, b, c;

  ifstream nums;
  nums.open("numbers.txt");

  fileIn >> a;
```

```
    fileIn >> b;
    fileIn >> c;

    cout << a + b + c << endl;

    nums.close();

    return 0;
  }
```

8.

```
#include <iostream>
#include <stdlib.h>
#include <fstream>

using namespace std;

int main(){
  string hi = Hello;
  ofstream hello;
  hello.open("text.txt");

  hello << hi << endl;

  hello.close();

  return 0;
}
```

9.

```
#include <iostream>
#include <stdlib.h>
#include <fstream>

using namespace std;

int main(){
  char a, b c;

  instream bunchOfChars;
  bunchOfChars.open("in.txt");

  fileIn >> a;
  fileIn >> b;
  fileIn >> c;

  ofstream firstAndLast;
  firstAndLast.open("out.txt");
  firstAndLast << a << b << c << endl;

  bunchOfChars.close();
  firstAndLast.close();

  return 0;
}
```

10.

```
#include <iostream>
#include <stdlib.h>
#include <fstream>

using namespace std;
  int main(){
  double p;

  ofstream price;
  price.open("price.txt");

  price <<  setprecision(2) << fixed << p << endl;

  return 0;
}
```

11.

```
#include <iostream>
#include <stdlib.h>

using namespace std;
int main(){
  int mystery;
  srand(time(0));
  mystery = rand() %4;

  if ()mystery % 4 == 1){
    cout << "Red" << endl;
  } else if (mystery % 4 == 2){
  cout << "Green" << endl;
  } else if (mystery % 4 == 3){
    cout << "Blue" << endl;
  }

  return 0;
}
```

12.

```
#include <iostream>
#include <stdlib.h>

using namespace std;
int main(){
  int mystery;
  srand(time(0));
  mystery = rand() % 11;

  if(mystery == 1 || mystery == 2){
    cout << "Bad day" << endl;
  } else {
    cout << "Good day" << endl;
  }

  return 0;
```

```
}
```

13.

```
#include <iostream>
#include <stdlib.h>

using namespace std;
int main(){
  int mystery;

  srand(time()NULL));
  mystery = rand() % 101;

  if (mystery < 31){
    cout <<  "precipitation" << endl;
  } else {
    cout << "sun" << endl;
  }

  return 0;
}
```

14.

```
#include <iostream>
#include <stdlib.h>
#include <cmath>

using namespace std;

double Pythagorean(int a, int b){
  double c = sqrt(pow(a, 2) + pow(b, 2));

return c;
}

int main(){
  int a, b;
  srand(time(NULL));
  a = rand() % 10 + 1;
  b = rand() % 10 + 1;

  if(Pythagorean(a, b)) > 10){
    cout << "Long" << endl;
  }

  return 0;
}
```

15.

```
#include <iostream>
#include <stdlib.h>

using namespace std;
int main(){
  srand(time(NULL));
```

```
    int a = rand() % 11;
    int b = rand() % 11;

    if( (a + b) % 2 == 0){
      cout << "Go to jail." << endl;

    }

    return 0;
}
```

16.

```
#include <iostream>
#include <stdlib.h>
#include <fstream>

using namespace std;

int main(){
  string a, b, c;
  int mystery;

  srand(time(0));
  mystery = rand() % 101;

  instream food;
  food.open("hello.txt");

  fileIn >> a;
  fileIn >> b;
  fileIn >> c;

  if (mystery > 66){
    cout << a; << endl;
  }
    else if (mystery <= 66 && mystery > 33){
    cout << b; << endl;
  }
    else if (mystery <= 33 && myster >= 0){
    cout << c; << endl;
  }

  return 0;
}
```

17.

```
#include <iostream>
#include <stdlib.h>
#include <fstream>
#include <string>

using namespace std;
int main(){
  string a, b, c, d;

```

```
10        instream short;
11        short.open("short.txt");
12
13        fileIn a;
14        fileIn b;
15        fileIn c;
16        fileIn d;
17
18        if(a.length() == 6 && b.length() == 6 && c.length() == 6  && d.
              length() == 6){
19          cout << "Not short" << endl;
20        } else {
21          cout <<< "Short" << endl;
22        }
23
24        return 0;
25      }
```