PPL Assignment - Question 7

IIT2015099

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

- attributes 7
  - boys 8
  - girls 14
- couples 10
- util 16

Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

attributes 7
boys 8
couples 10
girls 14
util 16

Chapter 3

File Index

3.1 File List

Here is a list of all files with brief descriptions:

PPL/ques7/attributes.cpp 17
PPL/ques7/boys.cpp 17
PPL/ques7/couples.cpp 17
PPL/ques7/girls.cpp 18
PPL/ques7/main.cpp 18
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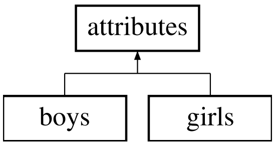
Chapter 4

Class Documentation

4.1 attributes Class Reference

Inheritance diagram for attributes:



Public Attributes

- std::string name
- std::string type
- int attractiveness
- int intelligence
- int happiness
- int committed

4.1.1 Detailed Description

Definition at line 1 of file attributes.cpp.

4.1.2 Member Data Documentation

4.1.2.1 attractiveness

```
int attributes::attractiveness
```

Definition at line 5 of file attributes.cpp.

4.1.2.2 committed

```
int attributes::committed
```

Definition at line 5 of file attributes.cpp.

4.1.2.3 happiness

```
int attributes::happiness
```

Definition at line 5 of file attributes.cpp.

4.1.2.4 intelligence

```
int attributes::intelligence
```

Definition at line 5 of file attributes.cpp.

4.1.2.5 name

```
std::string attributes::name
```

Definition at line 4 of file attributes.cpp.

4.1.2.6 type

```
std::string attributes::type
```

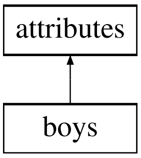
Definition at line 4 of file attributes.cpp.

The documentation for this class was generated from the following file:

- PPL/ques7/attributes.cpp

4.2 boys Class Reference

Inheritance diagram for boys:



Public Member Functions

- int readboyscount ()
- int input (boys ∗boyss, int nb)

  boys data input.
- int logging (boys ∗boyss, int nb)

  inserts girlfriend for a boyfriend if exists into log file.

Public Attributes

- std::string girlname
- int budget
- int min_attractive

4.2.1 Detailed Description

Definition at line 2 of file boys.cpp.

4.2.2 Member Function Documentation

4.2.2.1 input()

```
int boys::input (
             boys ∗ boyss,
             int nb )  [inline]
```

boys data input.

Definition at line 18 of file boys.cpp.

4.2.2.2 logging()

```
int boys::logging (
             boys ∗ boyss,
             int nb )  [inline]
```

inserts girlfriend for a boyfriend if exists into log file.

Definition at line 32 of file boys.cpp.

4.2.2.3 readboyscount()

```
int boys::readboyscount ( ) [inline]
```

Increment count if this character is newline.

number of couples.

Definition at line 7 of file boys.cpp.

4.2.3 Member Data Documentation

4.2.3.1 budget

```
int boys::budget
```

Definition at line 6 of file boys.cpp.

4.2.3.2 girlname

```
std::string boys::girlname
```

Definition at line 5 of file boys.cpp.

4.2.3.3 min_attractive

```
int boys::min_attractive
```

Definition at line 6 of file boys.cpp.

The documentation for this class was generated from the following file:

- PPL/ques7/boys.cpp

4.3 couples Class Reference

Public Member Functions

- int input (couples ∗couple, int count)
- int readcouplecount ()
- int pairing (boys ∗boyss, girls ∗girlss, int nb, int ng)

  Pairing.

Public Attributes

- std::string bname
- std::string btype
- std::string gname
- std::string gtype
- int bbud
- int gbud
- int batt
- int gatt
- int bint
- int gint
- int compatibility
- double happiness

4.3.1 Detailed Description

Definition at line 8 of file couples.cpp.

4.3.2 Member Function Documentation

4.3.2.1 input()

```
int couples::input (
             couples * couple,
             int count )   [inline]
```

data read of couples.

Definition at line 14 of file couples.cpp.

4.3.2.2 pairing()

```
int couples::pairing (
             boys * boyss,
             girls * girlss,
             int nb,
             int ng )   [inline]
```

Pairing.

Definition at line 40 of file couples.cpp.

4.3.2.3 readcouplecount()

```
int couples::readcouplecount ( ) [inline]
```

Increment count if this character is newline.

number of couples.

Definition at line 29 of file couples.cpp.

4.3.3 Member Data Documentation

4.3.3.1 batt

```
int couples::batt
```

Definition at line 12 of file couples.cpp.

4.3.3.2 bbud

```
int couples::bbud
```

Definition at line 12 of file couples.cpp.

4.3.3.3 bint

```
int couples::bint
```

Definition at line 12 of file couples.cpp.

4.3.3.4 bname

```
std::string couples::bname
```

Definition at line 11 of file couples.cpp.

4.3.3.5 btype

```
std::string couples::btype
```

Definition at line 11 of file couples.cpp.

4.3.3.6 compatibility

```
int couples::compatibility
```

Definition at line 12 of file couples.cpp.

4.3.3.7 gatt

```
int couples::gatt
```

Definition at line 12 of file couples.cpp.

4.3.3.8 gbud

```
int couples::gbud
```

Definition at line 12 of file couples.cpp.

4.3.3.9 gint

```
int couples::gint
```

Definition at line 12 of file couples.cpp.

4.3.3.10 gname

```
std::string couples::gname
```

Definition at line 11 of file couples.cpp.

4.3.3.11 gtype

```
std::string couples::gtype
```

Definition at line 11 of file couples.cpp.

4.3.3.12 happiness

```
double couples::happiness
```

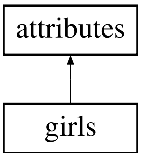
Definition at line 13 of file couples.cpp.

The documentation for this class was generated from the following file:

- PPL/ques7/couples.cpp

4.4 girls Class Reference

Inheritance diagram for girls:



Public Member Functions

- int readgirlscount ()
- int input (girls ∗girlss, int ng)

  reading girls data.

Public Attributes

- std::string boyname
- std::string need
- int maintenance

  attributes of girls.

4.4.1 Detailed Description

Definition at line 1 of file girls.cpp.

4.4.2 Member Function Documentation

4.4.2.1 input()

```
int girls::input (
             girls * girlss,
             int ng )  [inline]
```

reading girls data.

Definition at line 17 of file girls.cpp.

4.4.2.2 readgirlscount()

```
int girls::readgirlscount ( )  [inline]
```

Increment count if this character is newline.

number of couples.

Definition at line 6 of file girls.cpp.

4.4.3 Member Data Documentation

4.4.3.1 boyname

```
std::string girls::boyname
```

Definition at line 4 of file girls.cpp.

4.4.3.2 maintenance

```
int girls::maintenance
```

attributes of girls.

Definition at line 5 of file girls.cpp.

4.4.3.3 need

```
std::string girls::need
```

Definition at line 4 of file girls.cpp.

The documentation for this class was generated from the following file:

- PPL/ques7/girls.cpp

4.5 util Class Reference

Public Member Functions

- int coupling (string x[ ], int n)

4.5.1 Detailed Description

Definition at line 8 of file util.cpp.

4.5.2 Member Function Documentation

4.5.2.1 coupling()

```
int util::coupling (
             string x[ ],
             int n )  [inline]
```

taking boys input from boys.txt .

taking girls input from boys.txt.

pairing girl-boys if attractive of girl is greater than boy's reqquirement, satisfying the budget of boy and boys fall under the selection criterion of girl.

inserting into log file relations of a boy.

counting the number of couples.

usinglinearsearch.

using binary_search.

using maps as a hashtable.

Definition at line 11 of file util.cpp.

The documentation for this class was generated from the following file:

- PPL/ques7/util.cpp

Chapter 5

File Documentation

5.1 PPL/ques7/attributes.cpp File Reference

Classes

- class attributes

5.2 PPL/ques7/boys.cpp File Reference

```
#include <fstream>
```

Classes

- class boys

5.3 PPL/ques7/couples.cpp File Reference

```
#include "attributes.cpp"
#include "girls.cpp"
#include "boys.cpp"
#include <fstream>
#include <ctime>
#include <math.h>
```

Classes

- class couples

5.4 PPL/ques7/girls.cpp File Reference

Classes

- class girls

5.5 PPL/ques7/main.cpp File Reference

```
#include <iostream>
#include <stdio.h>
#include <stdlib.h>
#include "couples.cpp"
#include "util.cpp"
#include <string>
```

Functions

- int main (int argc, char **argv)

5.5.1 Function Documentation

5.5.1.1 main()

```
int main (
            int argc,
            char ** argv )
```

Given array of boys for which we have to search.

Inserting the couples formed into log file and couples.txt

Definition at line 9 of file main.cpp.

5.6 PPL/ques7/randomgen.cpp File Reference

```
#include <iostream>
```

Functions

- int main (int argc, char **argv)

5.6.1 Function Documentation

5.6.1.1 main()

```
int main (
            int argc,
            char ** argv )
```

Randomly Generating different types of boys in boys.txt.

boy name.

boy type.

attractiveness.

intelligent.

budget.

minimum attr.

Randomly Generating different types of girls in girls.txt.

Name.

type.

type.

attractiveness.

intelligent.

maintenance.

Definition at line 2 of file randomgen.cpp.

5.7 PPL/ques7/util.cpp File Reference

```
#include <map>
#include <string>
```

Classes

- class util

Variables

- map< string, string > m1
- map< string, int > m2

  used a hash table to store name of partner.

5.7.1 Variable Documentation

5.7.1.1 m1

```
map<string,string> m1
```

Definition at line 5 of file util.cpp.

5.7.1.2 m2

```
map<string,int> m2
```

used a hash table to store name of partner.

Definition at line 6 of file util.cpp.