PPL Assignment - Question 9 IIT2015099

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Chapter 1

Class Index

1.1 Class List

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

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Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

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File Index

Chapter 3

Class Documentation

3.1 boys Class Reference

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 name
- std::string type
- std::string girlname
- · int attractiveness
- · int intelligence
- int budget
- int happiness
- int committed
- · int min_attractive

3.1.1 Detailed Description

Definition at line 2 of file boys.cpp.

3.1.2 Member Function Documentation

3.1.2.1 input()

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

boys data input.

Definition at line 18 of file boys.cpp.

3.1.2.2 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.

3.1.2.3 readboyscount()

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

Increment count if this character is newline.

number of couples.

Definition at line 7 of file boys.cpp.

3.1.3 Member Data Documentation

3.1.3.1 attractiveness

```
int boys::attractiveness
```

Definition at line 6 of file boys.cpp.

3.1.3.2 budget int boys::budget Definition at line 6 of file boys.cpp. 3.1.3.3 committed int boys::committed Definition at line 6 of file boys.cpp. 3.1.3.4 girlname std::string boys::girlname Definition at line 5 of file boys.cpp. 3.1.3.5 happiness int boys::happiness Definition at line 6 of file boys.cpp.

3.1.3.6 intelligence

int boys::intelligence

Definition at line 6 of file boys.cpp.

3.1.3.7 min_attractive

int boys::min_attractive

Definition at line 6 of file boys.cpp.

3.1.3.8 name

```
std::string boys::name
```

Definition at line 5 of file boys.cpp.

3.1.3.9 type

```
std::string boys::type
```

Definition at line 5 of file boys.cpp.

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

• PPL/ques9/boys.cpp

3.2 couples Class Reference

Public Member Functions

- int input (couples *couple, int count)
- int input1 (couples *couple, int count)

data read.

- int readcouplecount ()
- int pairing (boys *boyss, girls *girlss, int nb, int ng)
- int couplegifting (couples *couple, int count, gifts *gif, int ngf)

 Gift Exchanges.

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

3.2.1 Detailed Description

Definition at line 8 of file couples.cpp.

3.2.2 Member Function Documentation

3.2.2.1 couplegifting()

Gift Exchanges.

Definition at line 132 of file couples.cpp.

3.2.2.2 input()

data read of couples.

Definition at line 14 of file couples.cpp.

3.2.2.3 input1()

data read.

Definition at line 29 of file couples.cpp.

3.2.2.4 pairing()

Pairing.

Definition at line 54 of file couples.cpp.

3.2.2.5 readcouplecount()

int couples::readcouplecount () [inline]

Increment count if this character is newline.

number of couples.

Definition at line 43 of file couples.cpp.

3.2.3 Member Data Documentation

3.2.3.1 batt

int couples::batt

Definition at line 12 of file couples.cpp.

3.2.3.2 bbud

int couples::bbud

Definition at line 12 of file couples.cpp.

3.2.3.3 bint

int couples::bint

Definition at line 12 of file couples.cpp.

3.2.3.4 bname

std::string couples::bname

Definition at line 11 of file couples.cpp.

```
3.2.3.5 btype
std::string couples::btype
Definition at line 11 of file couples.cpp.
3.2.3.6 compatibility
int couples::compatibility
Definition at line 12 of file couples.cpp.
3.2.3.7 gatt
int couples::gatt
Definition at line 12 of file couples.cpp.
3.2.3.8 gbud
int couples::gbud
Definition at line 12 of file couples.cpp.
3.2.3.9 gint
int couples::gint
Definition at line 12 of file couples.cpp.
```

Generated by Doxygen

std::string couples::gname

Definition at line 11 of file couples.cpp.

3.2.3.10 gname

3.2.3.11 gtype

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

Definition at line 11 of file couples.cpp.

3.2.3.12 happiness

```
double couples::happiness
```

Definition at line 13 of file couples.cpp.

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

• PPL/ques9/couples.cpp

3.3 gifts Class Reference

Public Member Functions

- int readgiftscount ()
- int input (gifts *gif, int ngf)
 reading gifts data.

Public Attributes

- std::string type
- int value

attributes of gifts.

int price

3.3.1 Detailed Description

Definition at line 1 of file gifts.cpp.

3.3.2 Member Function Documentation

3.3.2.1 input()

reading gifts data.

Definition at line 17 of file gifts.cpp.

3.3.2.2 readgiftscount()

```
int gifts::readgiftscount ( ) [inline]
```

Increment count if this character is newline.

number of couples.

Definition at line 6 of file gifts.cpp.

3.3.3 Member Data Documentation

3.3.3.1 price

```
int gifts::price
```

Definition at line 5 of file gifts.cpp.

3.3.3.2 type

```
std::string gifts::type
```

Definition at line 4 of file gifts.cpp.

3.3.3.3 value

```
int gifts::value
```

attributes of gifts.

Definition at line 5 of file gifts.cpp.

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

• PPL/ques9/gifts.cpp

3.4 girls Class Reference

Public Member Functions

- int readgirlscount ()
- int input (girls *girlss, int ng) reading girls data.

Public Attributes

- std::string name
- std::string type
- std::string boyname
- std::string need
- int attractiveness

attributes of girls.

- int maintenance
- · int intelligence
- · int happiness
- · int committed

3.4.1 Detailed Description

Definition at line 1 of file girls.cpp.

3.4.2 Member Function Documentation

3.4.2.1 input()

reading girls data.

Definition at line 17 of file girls.cpp.

3.4.2.2 readgirlscount()

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

Increment count if this character is newline.

number of couples.

Definition at line 6 of file girls.cpp.

3.4.3 Member Data Documentation

3.4.3.1 attractiveness int girls::attractiveness attributes of girls. Definition at line 5 of file girls.cpp. 3.4.3.2 boyname std::string girls::boyname Definition at line 4 of file girls.cpp. 3.4.3.3 committed int girls::committed Definition at line 5 of file girls.cpp. 3.4.3.4 happiness int girls::happiness Definition at line 5 of file girls.cpp. 3.4.3.5 intelligence int girls::intelligence

Definition at line 5 of file girls.cpp.

3.4.3.6 maintenance

int girls::maintenance

Definition at line 5 of file girls.cpp.

3.4.3.7 name

std::string girls::name

Definition at line 4 of file girls.cpp.

3.4.3.8 need

std::string girls::need

Definition at line 4 of file girls.cpp.

3.4.3.9 type

std::string girls::type

Definition at line 4 of file girls.cpp.

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

• PPL/ques9/girls.cpp

3.5 kbest < T > Class Template Reference

Template returning the best values.

Public Member Functions

void ret_best (T a[], int ar[], int n)

3.6 util Class Reference

3.5.1 Detailed Description

```
\label{template} \begin{array}{l} \text{template} \! < \! \text{class T} \! > \\ \text{class kbest} \! < \! \text{T} > \end{array}
```

Template returning the best values.

Definition at line 1 of file kbest.cpp.

3.5.2 Member Function Documentation

3.5.2.1 ret_best()

Definition at line 4 of file kbest.cpp.

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

• PPL/ques9/kbest.cpp

3.6 util Class Reference

Public Member Functions

- int coupling (int k)
- int gifting (int k)

3.6.1 Detailed Description

Definition at line 4 of file util.cpp.

3.6.2 Member Function Documentation

3.6.2.1 coupling()

```
int util::coupling (  \quad \text{int } k \text{ ) } \quad [\text{inline}]
```

taking boys input from boys.txt

taking girls input from boys.txt.

first priority for selection of boys will be budget and their second priority will be according to the girl type and the top "k" are eligible for the girls.

Definition at line 7 of file util.cpp.

3.6.2.2 gifting()

counting the number of couples.

Reading couples data from couple.txt.

Reading the types of gifts.

Gift exchanges among k best gifts, happiness and compatibility calculation and inserting into log file and fcalc.txt.

Definition at line 31 of file util.cpp.

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

• PPL/ques9/util.cpp

Chapter 4

File Documentation

4.1 PPL/ques9/boys.cpp File Reference

```
#include <fstream>
```

Classes

class boys

4.2 PPL/ques9/couples.cpp File Reference

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

Classes

class couples

4.3 PPL/ques9/gifts.cpp File Reference

Classes

• class gifts

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4.4 PPL/ques9/girls.cpp File Reference

Classes

· class girls

4.5 PPL/ques9/kbest.cpp File Reference

Classes

class kbest< T >

Template returning the best values.

4.6 PPL/ques9/main.cpp File Reference

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

Functions

• int main (int argc, char **argv)

4.6.1 Function Documentation

4.6.1.1 main()

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

Inserting the couples formed into log file and couples.txt

Inserting happiness and compatibility into fcalc.txt

Definition at line 7 of file main.cpp.

4.7 PPL/ques9/randomgen.cpp File Reference

```
#include <iostream>
#include "gifts.cpp"
```

Functions

• int main (int argc, char **argv)

4.7.1 Function Documentation

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.

different types of gift int gift.txt.

type.

Price.

Value.

luxury gifts will have more Price.

Value.

Generating the gifts in an srted order of their price.

if gift is luxury keeping it in luxury.txt as well.

Definition at line 3 of file randomgen.cpp.

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4.8 PPL/ques9/util.cpp File Reference

#include "kbest.cpp"

Classes

class util