PPL Assignment - 2

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Chapter 1

Class Index

1.1 Class List

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File Index

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Chapter 3

Class Documentation

3.1 Choosy_girl Class Reference

`#include <girl_choosy.h>`

Public Member Functions

- Choosy_girl ()
- Choosy_girl (string, int, int, int, int)

Public Attributes

- string name
- int attractiveness
- int maintenance
- int intelligence
- int selection_criteria
- bool is_committed

3.1.1 Detailed Description

Definition at line 7 of file girl_choosy.h.

3.1.2 Constructor & Destructor Documentation

3.1.2.1 Choosy_girl() [1/2]

`Choosy_girl::Choosy_girl ( )`

Definition at line 4 of file girl_choosy.cpp.

3.1.2.2 Choosy_girl() [2/2]

```
Choosy_girl::Choosy_girl (
            string n,
            int a,
            int m,
            int i,
            int s )
```

Definition at line 8 of file girl_choosy.cpp.

3.1.3 Member Data Documentation

3.1.3.1 attractiveness

```
int Choosy_girl::attractiveness
```

Definition at line 12 of file girl_choosy.h.

3.1.3.2 intelligence

```
int Choosy_girl::intelligence
```

Definition at line 16 of file girl_choosy.h.

3.1.3.3 is_committed

```
bool Choosy_girl::is_committed
```

Definition at line 22 of file girl_choosy.h.

3.1.3.4 maintenance

```
int Choosy_girl::maintenance
```

Definition at line 14 of file girl_choosy.h.

3.1.3.5 name

```
string Choosy_girl::name
```

Definition at line 10 of file girl_choosy.h.

3.1.3.6 selection_criteria

```
int Choosy_girl::selection_criteria
```

Definition at line 18 of file girl_choosy.h.

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

- ppl_assignment/q2/girl_choosy.h
- ppl_assignment/q2/girl_choosy.cpp

3.2 Couple Class Reference

```
#include <couple.h>
```

Public Member Functions

- void set_couple_happiness (long double)
- void set_couple_compatibility (int)

Public Attributes

- string boy_name
- string girl_name
- long double couple_happiness
- int couple_compatibility
- int gift_total_price

3.2.1 Detailed Description

Definition at line 6 of file couple.h.

3.2.2 Member Function Documentation

3.2.2.1 set_couple_compatibility()

```
void Couple::set_couple_compatibility (
            int c )
```

Definition at line 9 of file couple.cpp.

3.2.2.2 set_couple_happiness()

```
void Couple::set_couple_happiness (
            long double h )
```

Definition at line 4 of file couple.cpp.

3.2.3 Member Data Documentation

3.2.3.1 boy_name

```
string Couple::boy_name
```

Definition at line 8 of file couple.h.

3.2.3.2 couple_compatibility

```
int Couple::couple_compatibility
```

Definition at line 14 of file couple.h.

3.2.3.3 couple_happiness

```
long double Couple::couple_happiness
```

Definition at line 12 of file couple.h.

3.2.3.4 gift_total_price

```
int Couple::gift_total_price
```

Definition at line 16 of file couple.h.

3.2.3.5 girl_name

```
string Couple::girl_name
```

Definition at line 10 of file couple.h.

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

- ppl_assignment/q2/couple.h
- ppl_assignment/q2/couple.cpp

3.3 Desperate_girl Class Reference

```
#include <girl_desperate.h>
```

Public Member Functions

- Desperate_girl ()
- Desperate_girl (string, int, int, int, int)

Public Attributes

- string name
- int attractiveness
- int maintenance
- int intelligence
- int selection_criteria
- bool is_committed

3.3.1 Detailed Description

Definition at line 7 of file girl_desperate.h.

3.3.2 Constructor & Destructor Documentation

3.3.2.1 Desperate_girl() [1/2]

```
Desperate_girl::Desperate_girl ( )
```

Definition at line 4 of file girl_desperate.cpp.

3.3.2.2 Desperate_girl() [2/2]

```
Desperate_girl::Desperate_girl (
            string n,
            int a,
            int m,
            int i,
            int s )
```

Definition at line 9 of file girl_desperate.cpp.

3.3.3 Member Data Documentation

3.3.3.1 attractiveness

```
int Desperate_girl::attractiveness
```

Definition at line 12 of file girl_desperate.h.

3.3.3.2 intelligence

```
int Desperate_girl::intelligence
```

Definition at line 16 of file girl_desperate.h.

3.3.3.3 is_committed

```
bool Desperate_girl::is_committed
```

Definition at line 22 of file girl_desperate.h.

3.3.3.4 maintenance

```
int Desperate_girl::maintenance
```

Definition at line 14 of file girl_desperate.h.

3.3.3.5 name

```
string Desperate_girl::name
```

Definition at line 10 of file girl_desperate.h.

3.3.3.6 selection_criteria

```
int Desperate_girl::selection_criteria
```

Definition at line 18 of file girl_desperate.h.

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

- ppl_assignment/q2/girl_desperate.h
- ppl_assignment/q2/girl_desperate.cpp

3.4 Essential_gift Class Reference

```
#include <gift_essential.h>
```

Public Member Functions

- Essential_gift ()

Public Attributes

- string name
- int price
- int value

3.4.1 Detailed Description

Definition at line 6 of file gift_essential.h.

3.4.2 Constructor & Destructor Documentation

3.4.2.1 Essential_gift()

```
Essential_gift::Essential_gift ( )
```

Definition at line 4 of file gift_essential.cpp.

3.4.3 Member Data Documentation

3.4.3.1 name

```
string Essential_gift::name
```

Definition at line 8 of file gift_essential.h.

3.4.3.2 price

```
int Essential_gift::price
```

Definition at line 9 of file gift_essential.h.

3.4.3.3 value

```
int Essential_gift::value
```

Definition at line 10 of file gift_essential.h.

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

- ppl_assignment/q2/gift_essential.h
- ppl_assignment/q2/gift_essential.cpp

3.5 Geek_boy Class Reference

```
#include <boy_geek.h>
```

Public Member Functions

- Geek_boy ()
- Geek_boy (string, int, int, int, int)

Public Attributes

- string name
- int attractiveness
- int intelligence
- int budget
- int min_attraction_of_girl
- bool is_committed

3.5.1 Detailed Description

Definition at line 6 of file boy_geek.h.

3.5.2 Constructor & Destructor Documentation

3.5.2.1 Geek_boy() [1/2]

```
Geek_boy::Geek_boy ( )
```

Definition at line 4 of file boy_geek.cpp.

3.5.2.2 Geek_boy() [2/2]

```
Geek_boy::Geek_boy (
            string n,
            int a,
            int i,
            int b,
            int m )
```

Definition at line 8 of file boy_geek.cpp.

3.5.3 Member Data Documentation

3.5.3.1 attractiveness

```
int Geek_boy::attractiveness
```

Definition at line 11 of file boy_geek.h.

3.5.3.2 budget

```
int Geek_boy::budget
```

Definition at line 15 of file boy_geek.h.

3.5.3.3 intelligence

```
int Geek_boy::intelligence
```

Definition at line 13 of file boy_geek.h.

3.5.3.4 is_committed

```
bool Geek_boy::is_committed
```

Definition at line 19 of file boy_geek.h.

3.5.3.5 min_attraction_of_girl

```
int Geek_boy::min_attraction_of_girl
```

Definition at line 17 of file boy_geek.h.

3.5.3.6 name

```
string Geek_boy::name
```

Definition at line 9 of file boy_geek.h.

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

- ppl_assignment/q2/boy_geek.h
- ppl_assignment/q2/boy_geek.cpp

3.6 Generous_boy Class Reference

`#include <boy_generous.h>`

Public Member Functions

- Generous_boy ()
- Generous_boy (string, int, int, int, int)

Public Attributes

- string name
- int attractiveness
- int intelligence
- int budget
- int min_attraction_of_girl
- bool is_committed

3.6.1 Detailed Description

Definition at line 6 of file boy_generous.h.

3.6.2 Constructor & Destructor Documentation

3.6.2.1 Generous_boy() [1/2]

```
Generous_boy::Generous_boy ( )
```

Definition at line 4 of file boy_generous.cpp.

3.6.2.2 Generous_boy() [2/2]

```
Generous_boy::Generous_boy (
            string n,
            int a,
            int i,
            int b,
            int m )
```

Definition at line 9 of file boy_generous.cpp.

3.6.3 Member Data Documentation

3.6.3.1 attractiveness

```
int Generous_boy::attractiveness
```

Definition at line 11 of file boy_generous.h.

3.6.3.2 budget

```
int Generous_boy::budget
```

Definition at line 15 of file boy_generous.h.

3.6.3.3 intelligence

```
int Generous_boy::intelligence
```

Definition at line 13 of file boy_generous.h.

3.6.3.4 is_committed

```
bool Generous_boy::is_committed
```

Definition at line 19 of file boy_generous.h.

3.6.3.5 min_attraction_of_girl

```
int Generous_boy::min_attraction_of_girl
```

Definition at line 17 of file boy_generous.h.

3.6.3.6 name

```
string Generous_boy::name
```

Definition at line 9 of file boy_generous.h.

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

- ppl_assignment/q2/boy_generous.h
- ppl_assignment/q2/boy_generous.cpp

3.7 Luxury_gift Class Reference

```
#include <gift_luxury.h>
```

Public Member Functions

- Luxury_gift ()

Public Attributes

- string name
- int luxury_rating
- int difficulty
- int price
- int value

3.7.1 Detailed Description

Definition at line 6 of file gift_luxury.h.

3.7.2 Constructor & Destructor Documentation

3.7.2.1 Luxury_gift()

```
Luxury_gift::Luxury_gift ( )
```

Definition at line 4 of file gift_luxury.cpp.

3.7.3 Member Data Documentation

3.7.3.1 difficulty

```
int Luxury_gift::difficulty
```

Definition at line 10 of file gift_luxury.h.

3.7.3.2 luxury_rating

```
int Luxury_gift::luxury_rating
```

Definition at line 9 of file gift_luxury.h.

3.7.3.3 name

```
string Luxury_gift::name
```

Definition at line 8 of file gift_luxury.h.

3.7.3.4 price

```
int Luxury_gift::price
```

Definition at line 11 of file gift_luxury.h.

3.7.3.5 value

```
int Luxury_gift::value
```

Definition at line 12 of file gift_luxury.h.

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

- ppl_assignment/q2/gift_luxury.h
- ppl_assignment/q2/gift_luxury.cpp

3.8 Miser_boy Class Reference

```
#include <boy_miser.h>
```

Public Member Functions

- Miser_boy ()
- Miser_boy (string, int, int, int, int)

Public Attributes

- string name
- int attractiveness
- int intelligence
- int budget
- int min_attraction_of_girl
- bool is_committed

3.8.1 Detailed Description

Definition at line 6 of file boy_miser.h.

3.8.2 Constructor & Destructor Documentation

3.8.2.1 Miser_boy() [1/2]

```
Miser_boy::Miser_boy ( )
```

Definition at line 4 of file boy_miser.cpp.

3.8.2.2 Miser_boy() [2/2]

```
Miser_boy::Miser_boy (
            string n,
            int a,
            int i,
            int b,
            int m )
```

Definition at line 9 of file boy_miser.cpp.

3.8.3 Member Data Documentation

3.8.3.1 attractiveness

```
int Miser_boy::attractiveness
```

Definition at line 11 of file boy_miser.h.

3.8.3.2 budget

```
int Miser_boy::budget
```

Definition at line 15 of file boy_miser.h.

3.8.3.3 intelligence

```
int Miser_boy::intelligence
```

Definition at line 13 of file boy_miser.h.

3.8.3.4 is_committed

```
bool Miser_boy::is_committed
```

Definition at line 19 of file boy_miser.h.

3.8.3.5 min_attraction_of_girl

```
int Miser_boy::min_attraction_of_girl
```

Definition at line 17 of file boy_miser.h.

3.8.3.6 name

```
string Miser_boy::name
```

Definition at line 9 of file boy_miser.h.

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

- ppl_assignment/q2/boy_miser.h
- ppl_assignment/q2/boy_miser.cpp

3.9 Normal_girl Class Reference

`#include <girl_normal.h>`

Public Member Functions

- Normal_girl ()
- Normal_girl (string, int, int, int, int)

Public Attributes

- string name
- int attractiveness
- int maintenance
- int intelligence
- int selection_criteria
- bool is_committed

3.9.1 Detailed Description

Definition at line 7 of file girl_normal.h.

3.9.2 Constructor & Destructor Documentation

3.9.2.1 Normal_girl() [1/2]

```
Normal_girl::Normal_girl ( )
```

Definition at line 4 of file girl_normal.cpp.

3.9.2.2 Normal_girl() [2/2]

```
Normal_girl::Normal_girl (
            string n,
            int a,
            int m,
            int i,
            int s )
```

Definition at line 8 of file girl_normal.cpp.

3.9.3 Member Data Documentation

3.9.3.1 attractiveness

```
int Normal_girl::attractiveness
```

Definition at line 12 of file girl_normal.h.

3.9.3.2 intelligence

```
int Normal_girl::intelligence
```

Definition at line 16 of file girl_normal.h.

3.9.3.3 is_committed

```
bool Normal_girl::is_committed
```

Definition at line 22 of file girl_normal.h.

3.9.3.4 maintenance

```
int Normal_girl::maintenance
```

Definition at line 14 of file girl_normal.h.

3.9.3.5 name

```
string Normal_girl::name
```

Definition at line 10 of file girl_normal.h.

3.9.3.6 selection_criteria

```
int Normal_girl::selection_criteria
```

Definition at line 18 of file girl_normal.h.

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

- ppl_assignment/q2/girl_normal.h
- ppl_assignment/q2/girl_normal.cpp

3.10 Utility_gift Class Reference

```
#include <gift_utility.h>
```

Public Member Functions

- Utility_gift ()

Public Attributes

- string name
- int utility_value
- int utility_class
- int price
- int value

3.10.1 Detailed Description

Definition at line 6 of file gift_utility.h.

3.10.2 Constructor & Destructor Documentation

3.10.2.1 Utility_gift()

```
Utility_gift::Utility_gift ( )
```

Definition at line 4 of file gift_utility.cpp.

3.10.3 Member Data Documentation

3.10.3.1 name

```
string Utility_gift::name
```

Definition at line 8 of file gift_utility.h.

3.10.3.2 price

```
int Utility_gift::price
```

Definition at line 11 of file gift_utility.h.

3.10.3.3 utility_class

```
int Utility_gift::utility_class
```

Definition at line 10 of file gift_utility.h.

3.10.3.4 utility_value

```
int Utility_gift::utility_value
```

Definition at line 9 of file gift_utility.h.

3.10.3.5 value

```
int Utility_gift::value
```

Definition at line 12 of file gift_utility.h.

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

- ppl_assignment/q2/gift_utility.h
- ppl_assignment/q2/gift_utility.cpp

Chapter 4

File Documentation

4.1 ppl_assignment/q2/additional_functions.cpp File Reference

```
#include "additional_functions.h"
#include <bits/stdc++.h>
```

Functions

- void generate_input ()
- void read_input_and_pair (Choosy_girl g1[50], Normal_girl g2[50], Desperate_girl g3[50], Miser_boy b1[100], Generous_boy b2[100], Geek_boy b3[100], vector< pair< string, string > > *couples)
- void print_couples (vector< pair< string, string > > couples)
- void print_k_happiest (Couple c[50], int cnt)
- void print_k_most_compatible (Couple c[50], int cnt)

4.1.1 Function Documentation

4.1.1.1 generate_input()

```
void generate_input ( )
```

Definition at line 8 of file additional_functions.cpp.

4.1.1.2 print_couples()

```
void print_couples (
            vector< pair< string, string > > couples )
```

Definition at line 433 of file additional_functions.cpp.

4.1.1.3 print_k_happiest()

```
void print_k_happiest (
            Couple c[50],
            int cnt )
```

Definition at line 449 of file additional_functions.cpp.

4.1.1.4 print_k_most_compatible()

```
void print_k_most_compatible (
            Couple c[50],
            int cnt )
```

Definition at line 473 of file additional_functions.cpp.

4.1.1.5 read_input_and_pair()

```
void read_input_and_pair (
            Choosy_girl g1[50],
            Normal_girl g2[50],
            Desperate_girl g3[50],
            Miser_boy b1[100],
            Generous_boy b2[100],
            Geek_boy b3[100],
            vector< pair< string, string > > * couples )
```

Definition at line 53 of file additional_functions.cpp.

4.2 ppl_assignment/q2/additional_functions.h File Reference

4.3 ppl_assignment/q2/additional_functions_2.cpp File Reference

```
#include "additional_functions.h"
#include <bits/stdc++.h>
```

Functions

- void generate_input_2 ()
- int give_gifts (int b_type, int g_type, string b_name, string g_name, Essential_gift gt1[250], Luxury_gift gt2[250], Utility_gift gt3[250], Couple c[50], int maintenance, int budget, int c_cnt, int cnt_gt1, int cnt_gt2, int cnt_gt3, int intel)
- void read_pairup_and_gift (Choosy_girl g1[50], Normal_girl g2[50], Desperate_girl g3[50], Miser_boy b1[100], Generous_boy b2[100], Geek_boy b3[100], Essential_gift gt1[250], Luxury_gift gt2[250], Utility_gift gt3[250], Couple c1[50], int *couple_count)

4.3.1 Function Documentation

4.3.1.1 generate_input_2()

```
void generate_input_2 ( )
```

Definition at line 5 of file additional_functions_2.cpp.

4.3.1.2 give_gifts()

```
int give_gifts (
            int b_type,
            int g_type,
            string b_name,
            string g_name,
            Essential_gift gt1[250],
            Luxury_gift gt2[250],
            Utility_gift gt3[250],
            Couple c[50],
            int maintenance,
            int budget,
            int c_cnt,
            int cnt_gt1,
            int cnt_gt2,
            int cnt_gt3,
            int intel )
```

Definition at line 77 of file additional_functions_2.cpp.

4.3.1.3 read_pairup_and_gift()

```
void read_pairup_and_gift (
            Choosy_girl g1[50],
            Normal_girl g2[50],
            Desperate_girl g3[50],
            Miser_boy b1[100],
            Generous_boy b2[100],
            Geek_boy b3[100],
            Essential_gift gt1[250],
            Luxury_gift gt2[250],
            Utility_gift gt3[250],
            Couple c1[50],
            int * couple_count )
```

Definition at line 390 of file additional_functions_2.cpp.

4.4 ppl_assignment/q2/additional_functions_2.h File Reference

4.5 ppl_assignment/q2/boy_geek.cpp File Reference

```
#include "boy_geek.h"
#include <string>
```

4.6 ppl_assignment/q2/boy_geek.h File Reference

```
#include <string>
```

Classes

- class Geek_boy

4.7 ppl_assignment/q2/boy_generous.cpp File Reference

```
#include "boy_generous.h"
#include <string>
```

4.8 ppl_assignment/q2/boy_generous.h File Reference

```
#include <string>
```

Classes

- class Generous_boy

4.9 ppl_assignment/q2/boy_miser.cpp File Reference

```
#include "boy_miser.h"
#include <string>
```

4.10 ppl_assignment/q2/boy_miser.h File Reference

```
#include <string>
```

Classes

- class Miser_boy

4.11 ppl_assignment/q2/couple.cpp File Reference

```
#include "couple.h"
#include <string>
```

4.12 ppl_assignment/q2/couple.h File Reference

```
#include <string>
```

Classes

- class Couple

4.13 ppl_assignment/q2/gift_essential.cpp File Reference

```
#include "gift_essential.h"
#include <string>
```

4.14 ppl_assignment/q2/gift_essential.h File Reference

```
#include <string>
```

Classes

- class Essential_gift

4.15 ppl_assignment/q2/gift_luxury.cpp File Reference

```
#include "gift_luxury.h"
#include <string>
```

4.16 ppl_assignment/q2/gift_luxury.h File Reference

```
#include <string>
```

Classes

- class Luxury_gift

4.17 ppl_assignment/q2/gift_utility.cpp File Reference

```
#include "gift_utility.h"
#include <string>
```

4.18 ppl_assignment/q2/gift_utility.h File Reference

```
#include <string>
```

Classes

- class Utility_gift

4.19 ppl_assignment/q2/girl_choosy.cpp File Reference

```
#include "girl_choosy.h"
#include <string>
```

4.20 ppl_assignment/q2/girl_choosy.h File Reference

```
#include <string>
```

Classes

- class Choosy_girl

4.21 ppl_assignment/q2/girl_desperate.cpp File Reference

```
#include "girl_desperate.h"
#include <string>
```

4.22 ppl_assignment/q2/girl_desperate.h File Reference

```
#include <string>
```

Classes

- class Desperate_girl

4.23 ppl_assignment/q2/girl_normal.cpp File Reference

```
#include "girl_normal.h"
#include <string>
```

4.24 ppl_assignment/q2/girl_normal.h File Reference

```
#include <string>
```

Classes

- class Normal_girl

4.25 ppl_assignment/q2/q2.cpp File Reference