# Documentation

## API Documentation

## April 9, 2017

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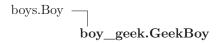
Class GeekBoy Module boy\_geek

# 1 Module boy\_geek

### 1.1 Variables

Name	Description
package	Value: None

### 1.2 Class GeekBoy



boy class for geek boys

#### 1.2.1 Methods

init(self, name, atr, gfbudget, intelli, min_atr_req, typ	2)
constructor	
Overrides: boys.Boyinit	

## Inherited from boys.Boy(Section 4.2)

# ${\bf 2}\quad {\bf Module\ boy\_generous}$

### 2.1 Variables

Name	Description
package	Value: None

## 2.2 Class GenerousBoy

boys.Boy — boy\_generous.GenerousBoy

boy class for generous boys

#### 2.2.1 Methods

init(self, name, atr, gfbudget, intelli, min_atr_req, type)	
constructor	
Overrides: boys.Boyinit	

## Inherited from boys.Boy(Section 4.2)

Class MiserBoy Module boy\_miser

## 3 Module boy\_miser

#### 3.1 Variables

Name	Description
package	Value: None

## 3.2 Class MiserBoy

boys.Boy — boy\_miser.MiserBoy

boy class for miser boys

#### 3.2.1 Methods

init(self, name, atr, gfbudget, intelli, min_atr_req, type)	
constructor	
Overrides: boys.Boyinit	

## Inherited from boys.Boy(Section 4.2)

Class Boy Module boys

# 4 Module boys

#### 4.1 Variables

Name	Description
package	Value: None

## 4.2 Class Boy

**Known Subclasses:** boy\_geek.GeekBoy, boy\_generous.GenerousBoy, boy\_miser.MiserBoy boy class for all boys

init(self, name,	atr, gfbudget, intelli, min_atr_req, type)
constructor	

is_elligible(self, mbudget)	
checks the elligibility of a given Girl, for the current instance of Boy class	

Class Couple Module couple

# 5 Module couple

## 5.1 Variables

Name	Description
package	Value: None

## 5.2 Class Couple

couple class for all couples

init(self, boy, girl)
constructor

$set\_happiness(self)$
set the happiness of a couple

$\underline{\mathbf{set}}\underline{\mathbf{compatibility}}(self)$	
set the compatibility of a couple	

# 6 Module gift\_essential

### 6.1 Variables

Name	Description
package	Value: None

## 6.2 Class EssentialGift

gift class for essential gifts

init(self, name, price, value, type)
constructor
Overrides: gifts.Giftinit

# 7 Module gift\_luxury

### 7.1 Variables

Name	Description
package	Value: None

## 7.2 Class LuxuryGift

gift class for luxury gifts

init(self, name, price, value, type, lxry_rtng, difficulty)
constructor
Overrides: gifts.Giftinit

Class UtilityGift Module gift\_utility

# 8 Module gift\_utility

## 8.1 Variables

Name	Description
package	Value: None

## 8.2 Class UtilityGift

gift class for utility gifts

init(self, name, price, value, type, utlty_value, utlty_class)
constructor
Overrides: gifts.Giftinit

Class Gift Module gifts

# 9 Module gifts

## 9.1 Variables

Name	Description
package	Value: None

### 9.2 Class Gift

init(self, name, price, value, type)
constructor

## 10 Module girl\_choosy

#### 10.1 Variables

Name	Description
package	Value: None

## 10.2 Class ChoosyGirl

```
girls.Girl — girl_choosy.ChoosyGirl
```

girl class for choosy girls

#### 10.2.1 Methods

init(self, name, atr, mbudget, intelli, type)
constructor
Overrides: girls.Girlinit

## Inherited from girls. Girl (Section 13.2)

## 11 Module girl\_desperate

#### 11.1 Variables

Name	Description
package	Value: None

## 11.2 Class DesperateGirl

girl class for desperate girls

#### 11.2.1 Methods

init(self, name, atr, mbudget, intelli, type)
constructor
Overrides: girls.Girlinit

## Inherited from girls. Girl (Section 13.2)

## 12 Module girl\_normal

#### 12.1 Variables

Name	Description
package	Value: None

#### 12.2 Class NormalGirl

girls.Girl — girl\_normal.NormalGirl

girl class for normal girls

#### 12.2.1 Methods

init(self, name, atr, mbudget, intelli, type)	
constructor	
Overrides: girls.Girlinit	

## $Inherited\ from\ girls. Girl (Section\ 13.2)$

Class Girl Module girls

## 13 Module girls

### 13.1 Variables

Name	Description
package	Value: None

### 13.2 Class Girl

 $\label{lem:choosy:cho$ 

init(self, name, atr, mbudget, intelli, type)	
constructor	

is_elligible(self, gfbudget)
checks the elligibility of a given Boy, for the current instance of Girl class

## 14 Module q10\_driver

#### 14.1 Functions

#### random $\mathbf{k}(alist, k, criterion)$

returns the random k items from a given list of n best items according to given criterion

#### allocate()

reads and stores the input from the boys.csv and girls.csv files and then makes the valid couples

#### $calculate\_happiness(C, k)$

reads and stores the inputs from the gifts.csv file and provide gift exchanges between the couples

#### $set\_girl\_happiness(c, v1, v2)$

sets the happiness of a girl according to her type

#### $hp\_miser(GFT, c)$

provides gifting logic for Miser type Boys and sets the Happiness of the committed Boy and the whole couple, also sets the Compatibility of the couple

#### $hp\_generous(GFT, c)$

provides gifting logic for Generous type Boys and sets the Happiness of the committed Boy and the whole couple, also sets the Compatibility of the couple

#### $hp\_geek(\mathit{GFT}, c)$

provides gifting logic for Geek type Boys and sets the Happiness of the committed Boy and the whole couple, also sets the Compatibility of the couple

#### $\mathbf{print} \quad \mathbf{gifts}(C)$

prints all the Gifts gifted by Boyfriend to his Girlfriend for all the Couples

#### $\mathbf{print}_{\mathbf{hc}}(C, k)$

prints the k most Happy Couples and k most Compatible Couples

Variables Module q10\_driver

### 14.2 Variables

Name	Description
package	Value: None

Variables Module utility

# 15 Module utility

## 15.1 Functions

utility()	
creates the input csv files	

$\mathbf{create}(\mathit{file},\mathit{list})$	
writes to csv files	

## 15.2 Variables

Name	Description
package	Value: None

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