Question4

API Documentation

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1 Package q4

1.1 Modules

- **Couple** *(Section 2, p. 3)*
- **app** *(Section 3, p. 4)*
- **boy** *(Section 4, p. 5)*
- **gift** *(Section 5, p. 7)*
- **girl** *(Section 6, p. 9)*
- **helper** *(Section 7, p. 12)*

1.2 Variables

Name	Description
__package__	**Value:** `None`

2 Module q4.Couple

2.1 Variables

Name	Description
__package__	**Value:** `'q4'`

2.2 Class Couple

2.2.1 Methods

__init__(*self*, *boy*, *girl*, *gift_list*, *happiness*=0)

:param boy: boy object :param girl: girl object :param gift_list: list of gift object :param happiness: happiness of couple

__str__(*self*)

allocate_gifts(*self*, *gift_list*)

Allocates gift from given gift lisr :param gift_list: list of gift objects :return:

set_happiness(*self*)

Calculates boy's and girl's happiness individually and adds it. :return:

get_compatibility(*self*)

Calculates compatibility of the couple :return:

breakup(*self*)

3 Module q4.app

3.1 Functions

main()

4 Module q4.boy

4.1 Variables

Name	Description
__package__	**Value:** `None`

4.2 Class Boy

Known Subclasses: q4.boy.GeekBoy, q4.boy.GenerousBoy, q4.boy.MiserBoy

Class for boy

4.2.1 Methods

__init__(*self*, *name*, *attractiveness*, *min_attraction*, *intelligence*, *budget*, *single*=`1`, *happiness*=`0`)

__str__(*self*)

change_commitment(*self*)

4.3 Class GeekBoy

q4.boy.Boy
└
q4.boy.GeekBoy

4.3.1 Methods

__init__(*self*, *name*, *attractiveness*, *min_attraction*, *intelligence*, *budget*, *single*=`1`, *happiness*=`0`)

Overrides: q4.boy.Boy.__init__

get_happiness(*self*, *girlfriend*)

Inherited from q4.boy.Boy(Section 4.2)

__str__(), change_commitment()

4.4 Class MiserBoy

q4.boy.Boy
└
q4.boy.MiserBoy

4.4.1 Methods

__init__(*self*, *name*, *attractiveness*, *min_attraction*, *intelligence*, *budget*, *single*=1, *happiness*=0)

Overrides: q4.boy.Boy.__init__

get_happiness(*self*, *girlfriend*)

Inherited from q4.boy.Boy(Section 4.2)

__str__(), change_commitment()

4.5 Class GenerousBoy

q4.boy.Boy
└
q4.boy.GenerousBoy

4.5.1 Methods

__init__(*self*, *name*, *attractiveness*, *min_attraction*, *intelligence*, *budget*, *single*=1, *happiness*=0)

Overrides: q4.boy.Boy.__init__

get_happiness(*self*, *girlfriend*)

Inherited from q4.boy.Boy(Section 4.2)

__str__(), change_commitment()

5 Module q4.gift

5.1 Variables

Name	Description
__package__	**Value:** `None`

5.2 Class Gift

Known Subclasses: q4.gift.EssentialGift, q4.gift.LuxuryGift, q4.gift.UtilityGift

5.2.1 Methods

__**init**__(*self*, *name*, *price*, *value*)

:param name: name of gift :param price: price of gift :param value: value of the gift

5.3 Class EssentialGift

q4.gift.Gift
└ **q4.gift.EssentialGift**

5.3.1 Methods

__**init**__(*self*, *name*, *price*, *value*)

:param name: name of gift :param price: price of gift :param value: value of the gift

Overrides: q4.gift.Gift.__init__ extit(inherited documentation)

5.4 Class LuxuryGift

q4.gift.Gift
└ **q4.gift.LuxuryGift**

5.4.1 Methods

__init__(*self*, *name*, *price*, *value*, *difficulty*, *rating*)

:param name: name of gift :param price: price of gift :param value: value of gift :param difficulty: difficulty in obtaining the gift :param rating: rating of the gift

Overrides: q4.gift.Gift.__init__

5.5 Class UtilityGift

q4.gift.Gift
└
q4.gift.UtilityGift

5.5.1 Methods

__init__(*self*, *name*, *price*, *value*, *utility_value*, *utility_class*)

:param name: name of gift :param price: price of gift :param value: value of gift :param utility_value: utility value of gift :param utility_class: utlility class of gift

Overrides: q4.gift.Gift.__init__

6 Module q4.girl

6.1 Variables

Name	Description
__package__	**Value:** `'q4'`

6.2 Class Girl

Known Subclasses: q4.girl.ChoosyGirl, q4.girl.DesperateGirl, q4.girl.NormalGirl

Class for girl

6.2.1 Methods

__init__(*self*, *name*, *attractiveness*, *intelligence*, *budget*, *single*=`1`, *happiness*=`0`)

:param name: Name of the girl :param attractiveness: attractiveness of the girl :param intelligence: intelligence of the girl :param budget: maintenance budget if the girl :param category: Category of the girl, wither choosy, normal or desperate :param single: single status, either 0 or 1 :param happiness: happiness of girl

__str__(*self*)

change_commitment(*self*, *val*=`0`)

change commitment status to given value :param val: :return:

single(*self*)

6.3 Class ChoosyGirl

q4.girl.Girl

q4.girl.ChoosyGirl

6.3.1 Methods

__init__(*self*, *name*, *attractiveness*, *intelligence*, *budget*, *single*=1, *happiness*=0)

:param name: Name of the girl :param attractiveness: attractiveness of the girl :param intelligence: intelligence of the girl :param budget: maintenance budget if the girl :param category: Category of the girl, wither choosy, normal or desperate :param single: single status, either 0 or 1 :param happiness: happiness of girl

Overrides: q4.girl.Girl.__init__ extit(inherited documentation)

get_happiness(*self*)

Inherited from q4.girl.Girl(Section 6.2)

__str__(), change_commitment(), single()

6.4 Class NormalGirl

q4.girl.Girl
└
q4.girl.NormalGirl

6.4.1 Methods

__init__(*self*, *name*, *attractiveness*, *intelligence*, *budget*, *single*=1, *happiness*=0)

:param name: Name of the girl :param attractiveness: attractiveness of the girl :param intelligence: intelligence of the girl :param budget: maintenance budget if the girl :param category: Category of the girl, wither choosy, normal or desperate :param single: single status, either 0 or 1 :param happiness: happiness of girl

Overrides: q4.girl.Girl.__init__ extit(inherited documentation)

get_happiness(*self*)

Inherited from q4.girl.Girl(Section 6.2)

__str__(), change_commitment(), single()

6.5 Class DesperateGirl

q4.girl.DesperateGirl

6.5.1 Methods

__init__(*self*, *name*, *attractiveness*, *intelligence*, *budget*, *single*=1, *happiness*=0)

:param name: Name of the girl :param attractiveness: attractiveness of the girl :param intelligence: intelligence of the girl :param budget: maintenance budget if the girl :param category: Category of the girl, wither choosy, normal or desperate :param single: single status, either 0 or 1 :param happiness: happiness of girl

Overrides: q4.girl.Girl.__init__ extit(inherited documentation)

get_happiness(*self*)

Inherited from q4.girl.Girl(Section 6.2)

__str__(), change_commitment(), single()

7 Module q4.helper

7.1 Functions

form_couple(*boy*, *girl*)

Takes a boy and girl and forms it couple :param boy: boy object :param girl: girl object :return:

get_boy_list()

Autogenerates a random boy list :return:

get_girl_list()

autogenerates a random girl list :return:

get_gift_list(*filename*)

Extracts gift data from csv file :param filename: filename of the csv file :return: list of gift objects

7.2 Variables

Name	Description
__package__	**Value:** `'q4'`

8 Script script-log_txt

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