객체지향 프로그래밍 및 실습(Object Oriented Programming and practical)

Homework 1

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- HangmanPrinter.java

**class** HangManPrinter

{

**public** **void** Showmenu() **//print menu**

{

**for** (**int** i=0;i<32;i++)

System.*out*.print("\*");

System.*out*.println();

System.*out*.println("\* OOP Homework 1-------Hangman \*");

**for** (**int** i=0;i<32;i++)

System.*out*.print("\*");

System.*out*.println("\n");

System.*out*.print(" ");

**for** (**int** i=0;i<25;i++)

System.*out*.print("-");

System.*out*.println();

System.*out*.println(" | 1. Setup the data List |");

System.*out*.println(" |------------------------");

System.*out*.println(" | 2. Start Game |");

System.*out*.print(" ");

**for** (**int** i=0;i<25;i++)

System.*out*.print("-");

System.*out*.println();

}

**public** String ShowHangMan(**int** input) **//according to ‘input’, Hangman picture changed.**

{

**switch**(input)

{

**case** 0 :

**return** " -------\n| |\n|\n|\n|\n|\n|\n|\n---\n";

**case** 1 :

**return** " -------\n| |\n| O\n|\n|\n|\n|\n|\n---\n";

**case** 2 :

**return** " -------\n| |\n| O\n| |\n|\n|\n|\n|\n---\n";

**case** 3 :

**return** " -------\n| |\n| O\n| |\n| ---\n|\n|\n|\n---\n";

**case** 4 :

**return** " -------\n| |\n| O\n| |\n| ---\n| |\n|\n|\n---\n";

**case** 5 :

**return** " -------\n| |\n| O\n| |\n| ---\n| |\n| / \\\n|\n---\n";

**default** :

**return** "";

}

}

}

- HangmanController.java

**import** java.util.ArrayList;

**import** java.util.Random;

**import** java.lang.StringBuilder;

**class** HangManController{

**private** ArrayList<String>Data;

**private** Random RandNum;

**private** HangManPrinter Printer;

**private int** Rand\_num\_idx;

**private int** Data\_num;

**private int** Wrong\_num;

**private** String Ques;

**private char**[] storage;

**private int** storageIdx;

**public** HangManController()

{

Data=**new** ArrayList<String>();

Printer=**new** HangManPrinter();

RandNum=**new** Random();

Data\_num=0;

Rand\_num\_idx=0;

storage=**new** char[5];

storageIdx=0;

}

**public** **void** SetSize(**int** input)

{

Data\_num=input;

}

**public** **void** SetData(String input)

{

Data.add(input);

}

**public** String RandGetData()

{

Rand\_num\_idx=RandNum.nextInt(Data\_num);

**return** Data.get(Rand\_num\_idx);

}

**public void** showString()

{

**for** (**int** i=0;i<Ques.length();i++)

{

System.out.print(Ques.charAt(i));

System.out.print(" ");

}

System.out.println();

}

**public** String toString()

{

**return** Printer.ShowHangMan(Wrong\_num);

}

**public boolean** StartGame()

{

Wrong\_num=0;

**if** (Data\_num==0)

{

System.out.println("Undefined Access");

**return false**;

}

String temp=RandGetData();

StringBuilder build=**new** StringBuilder(temp);

**for** (**int** i=0;i<temp.length();i++)

{

build.setCharAt(i,'\_');

}

Ques=build.toString();

**return true**;

}

**public boolean** CheckSame(String input)

{

**for** (**int** i=0;i<storageIdx;i++)

{

**if** (storage[i]==input.charAt(0))

**return true**;

}

**return false**;

}

**public void** ShowChar()

{

System.out.print("Already give :");

**for** (**int** i=0;i<storageIdx;i++)

{

System.out.print(storage[i]+" ");

}

System.out.println();

}

**public boolean** CheckChar(String input)

{

**if** (CheckSame(input))

{

**return false**;

}

storage[storageIdx++]=input.charAt(0);

**int** right=0;

StringBuilder build=**new** StringBuilder(Ques);

**for** (**int** i=0;i<Ques.length();i++)

{

**if** (Data.get(Rand\_num\_idx).charAt(i)==input.charAt(0))

{

build.setCharAt(i, input.charAt(0));

right++;

}

}

Ques=build.toString();

**if** (right==0)

Wrong\_num++;

**return true**;

}

**public boolean** CheckAns()

{

**if** (Ques.equals(Data.get(Rand\_num\_idx)))

**return true**;

**else**

**return false**;

}

**public boolean** IsOut(String input)

{

**if** (input.equals("n") || input.equals("N"))

**return true**;

**else**

**return false**;

}

}

- HomeworkTester.java

**import** java.util.Scanner;

**class** HomeworkTester

{

**public** **static** **void** main(String[] args)

{

Scanner Keyboard=**new** Scanner(System.*in*);

HangManPrinter Menu=**new** HangManPrinter();

HangManController Control=**new** HangManController();

**while** (**true**)

{

Menu.Showmenu();

System.*out*.println("Please enter your selection :");

**int** choose=Integer.*parseInt*(Keyboard.nextLine());

**if** (choose==1)

{

System.*out*.print("What is the size of data list? :");

String size=Keyboard.nextLine();

**for** (**int** i=0;i<Integer.*parseInt*(size);i++)

{

System.*out*.print("Start Enter the animal name # "+(i+1)+"/"+Integer.*parseInt*(size)+" :");

String temp=Keyboard.nextLine();

Control.SetData(temp);

}

System.*out*.println("Do you want to continue? (y/n)");

String out=Keyboard.nextLine();

**if** (Control.IsOut(out))

**break**;

}

**else**

{

**if** (Control.StartGame())

{

**for** (**int** i=0;i<5;i++)

{

System.*out*.println(Control);

Control.showString();

Control.ShowChar();

System.*out*.println("Please enter a character :");

String CharIn=Keyboard.nextLine();

**if**(!Control.CheckChar(CharIn))

{

System.*out*.println("You already gave SAME character!!");

i--;

}

**if** (Control.CheckAns())

{

System.*out*.println(Control);

Control.showString();

System.*out*.println("Congratulations!");

**break**;

}

}

**if** (!Control.CheckAns())

{

System.*out*.println(Control);

Control.showString();

System.*out*.println("Poor Guess!!!");

}

}

System.*out*.println("Do you want to continue? (y/n)");

String out=Keyboard.nextLine();

**if** (Control.IsOut(out))

**break**;

}

}

}

}