O.O.P.M. MINI PROJECT

PROJECT TITLE:

KAUN BANEGA CROREPATI

By,

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­­­­­­­­­­S.E. Computers 2,

Batch no.: C-22,

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* Design a quiz on the lines of the TV Show “Kaun Banega Crorepati” using Java programming Language. The program should contain different lifelines like 50:50, Ask the expert, etc. which can be used by the player once per game. For every correct answer, the prize money should be incremented by 10 Lakhs and the game should stop when the user enters a wrong answer or the questions get over. Demonstrate the use of different Object Oriented Programming Concepts within the program.

**Abstract:**

The following is a quiz created as an adaptation of the Indian television show “Kaun Banega Crorepati” which has also been portrayed on American television as “Who wants to be a Millionaire”.

The program, that has been purely designed in JAVA, displays multiple functionality using Object Oriented concepts and in-built Java functions.

It begins by requiring the user’s name and a password essential to play the game. The password is accepted using the readPassword() method of the Console class and is not shown on the screen when entered.

Thereafter, a series of 10 questions which appear in a random order (using Math.random() ) in each iteration of the game are imported from a package and displayed on the screen for the user.

Each question has 4 options, only one of which is correct. The user, for each question, is provided with an option of either answering the question or using one of three available lifelines. A package named ‘lifeline’ is imported. It is accessed every time the user opts for a lifeline. 3 lifelines are provided at the beginning of the game which are meant to last through the due course of each iteration.

These lifelines are as stated:

1. 50-50: It reduces the probable options to 2, one of which is correct. The wrong question is different every time. This is ensured by using the Math.random() function.

2. Ask the expert: This lifeline is directed to provide the right answer when called.

3. Change the question: This lifeline, when called, forfeits the current question and transfers control to a different question with different options.

Each of these lifelines can be used only once post which the user will be notified that it has already been used once and will be redirected to either use another lifeline or go back to the current question.

Whether or not a lifeline is used, the answer entered by the user will be checked for its correctness. If right, the current amount that the user has won will be incremented by 10 lacs and the next question will be displayed. If not, the user will be notified that the entered input is incorrect, the correct option will be displayed, the amount won will be shown and an option for either playing the game again or exiting will be displayed. If the user wishes to play again, control will be transferred back to the beginning. If not, the program will terminate (System.exit(0)).

**Object Oriented Concepts used:**

1. Packages: 2 user defined packages, namely- ‘qb’ and ‘lifeline’ have been made and imported in the main class file.

2. Inheritance: Inheritance has been used to ensure reusability and use components of one class in another.

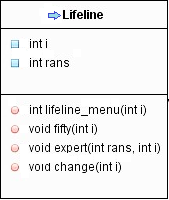
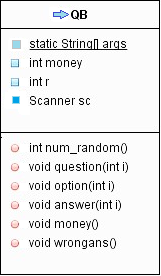
3. In-built functions including:

→Math.random(),

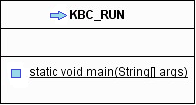
→Console.readPassword(),

→System.exit(0), and other in-built and user defined methods, etc.

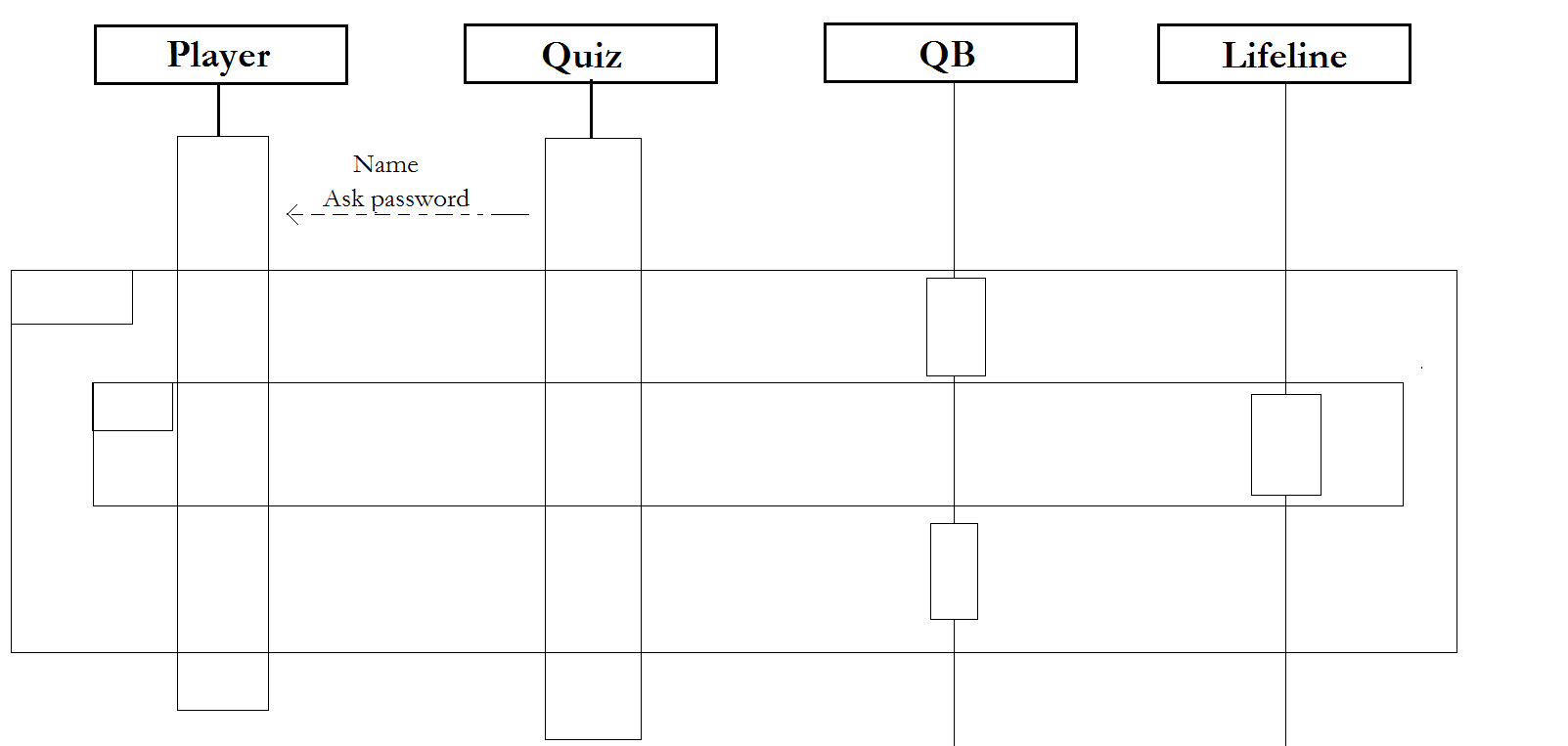
**Class Diagram:**

is



**Sequence Diagram:**

****

**LIFELINE**

**QB**

*KBC\_RUN*

**User**

Verified answer

Display Question

Enters response

Displays lifeline Calls lifeline

Appropriate response

Ask answer verifies answer

Enter answer

****

Displays money

Total money

Appropriate response

Random question

Lifeline

[use]

Or wrong ans

Loop

Till i<10 ****

Calculates money

Authenticate

Chooses question

****

****

****

Enter password

**Code**:

package kbc1;

import java.util.Scanner;

public class lifeline

{

public int i=0,l=3;

public int rans=0,flag1=0,flag2=0,flag3=0,flag4=0,flag5=0,f=0;

public int lifeline\_menu(int i)

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter lifeline required:\n1.Fifty:fifty\n2.Ask the expert\n3.Change the question\n4.Go back to current question.");

int x=sc.nextInt();

switch(x)

{

case 1:fifty(i);

return i;

case 2:expert(rans,i);

return i;

case 3:change(i);

f=1;

return i;

case 4:flag5=1;

return i;

default: System.out.println("Invalid input. Please select again.");

lifeline\_menu(i);

break;

}

return -1;

}

public void fifty(int i)

{

if(flag1==1)

{

System.out.println("You have already used this lifeline. Please choose again.\n\n");

lifeline\_menu(i);

}

else

{

double opt1=Math.random()\*100%4;

int op=(int)opt1;

if(op==0)

op+=4;

if(op==rans)

{

fifty(i);

}

else if(op<rans)

System.out.println("The two possible correct options are:\n["+op+"]\t["+rans+"]");

else

System.out.println("The two possible correct options are:\n["+rans+"]\t["+op+"]");

flag1=1;

}

}

public void expert(int rans,int i)

{

if(flag2==1)

{

System.out.println("You have already used this lifeline. Please choose again.");

lifeline\_menu(i);

}

else

{

System.out.println("Today's expert says the right answer is: "+rans);

flag2=1;

}

}

public void change(int i)

{

if(flag3==1)

{

System.out.println("\n\n\nYou have already used this lifeline. Please choose again.\n\n");

lifeline\_menu(i);

}

flag3=1;

flag4=1;

}

}

package kbc2;

import kbc1.\*;

import java.util.\*;

public class QB extends lifeline

{

public static String[] args =null;

public int money=0,j=-1,ex;

public int r[]=new int[11];

Scanner sc=new Scanner(System.in);

public int num\_random()

{

++j;

double r1=Math.random()\*100;

r[j]=((int)r1)%10;

for(int k=0;k<j;k++)

{

if(r[k]==r[j])

{

--j;

int g=num\_random();

return g;

}

}

return r[j];

}

public void question(int i)

{

if(flag4!=1&&flag5!=1)

{

i=num\_random();

}

flag4=flag5=0;

switch(i)

{

case 0:System.out.println("Q.)\nWhat also is a nick name for The United States presidential state car?");

option(i);

break;

case 1:System.out.println("Q.)\nWho was the first President of independent India?");

option(i);

break;

case 2:System.out.println("Q.)\nWhat city is the financial Capital of India?");

option(i);

break;

case 3:System.out.println("Q.)\nWhich American, along with Steve Jobs, co-founded Apple?");

option(i);

break;

case 4:System.out.println("Q.)\nWhich player currently posseses the maximum number of FIFA Ballon d'Or awards?");

option(i);

break;

case 5:System.out.println("Q.)\nWhich building is currently the tallest building in the world?");

option(i);

break;

case 6:System.out.println("Q.)\nOn the basis of area, which country is the largest country is the world?");

option(i);

break;

case 7:System.out.println("Q.)\nWhich Indian-American business executive is currently the CEO of the world's largest search engine?");

option(i);

break;

case 8:System.out.println("Q.)\nWhich cricketer currently holds the record for the highest batting average in test matches?");

option(i);

break;

case 9:System.out.println("Q.)\nWho is currently the President of the People's Republic of China?");

option(i);

break;

case 10:System.out.println("Q.)\nWhich Computer Scientist was the creator of the programming language called 'C'?");

option(i);

break;

}

}

public void option(int i)

{

switch(i)

{

case 0:System.out.println("1=Beast\t2=Leopard\n3=King\t4=Car One\n");

answer(i);

break;

case 1:System.out.println("1=Jawaharlal Nehru\t2=MK Gandhi\n3=Rajendra Prasad\t4=Bhagat Singh\n");

answer(i);

break;

case 2:System.out.println("1=New Delhi\t2=Kolkata\n3=Bangalore\t4=Mumbai\n");

answer(i);

break;

case 3:System.out.println("1=Leonard Bosack\t2=Bill Gates\n3=Evan Williams\t4=Steve Wozniak\n");

answer(i);

break;

case 4:System.out.println("1=Lionel Messi\t2=Cristiano Ronaldo\n3=Zinedane Zidane\t4=Ronaldinho Gaucho\n");

answer(i);

break;

case 5:System.out.println("1=One World Trade Center\t2=Burj Khalifa\n3=Shanghai Tower\t4=Petronas Twin Towers\n");

answer(i);

break;

case 6:System.out.println("1=USA\t2=Russia\n3=India\t4=China\n");

answer(i);

break;

case 7:System.out.println("1=Sundararajan Pichai\t2=Azim Premji\n3=Satya Nadella\t4=Bobby Jindal\n");

answer(i);

break;

case 8:System.out.println("1=Vivian Richards\t2=Sachin Tendulkar\n3=Brian Lara\t4=Don Bradman\n");

answer(i);

break;

case 9:System.out.println("1=Lee Hsien Loong\t2=Kim Jong Un\n3=Xi Jinping\t4=Shinzo Abe\n");

answer(i);

break;

case 10:System.out.println("1=Steve Jobs\t2=Guido van Rossum\n3=Dennis Ritchie\t4=Bjarne Stroustrup\n");

answer(i);

break;

}

}

public void answer(int i)

{

Scanner sc=new Scanner(System.in);

switch(i)

{

case 0: rans=1;

break;

case 1: rans=3;

break;

case 2: rans=4;

break;

case 3: rans=4;

break;

case 4: rans=1;

break;

case 5: rans=2;

break;

case 6: rans=2;

break;

case 7: rans=1;

break;

case 8: rans=4;

break;

case 9: rans=3;

break;

case 10: rans=3;

break;

}

System.out.println("\nWould you like to 1.)Continue or 2.)Use Lifeline?");

int opt=sc.nextInt();

if(opt==2)

{

int p=lifeline\_menu(i);

if(flag5==1)

{

question(p);

}

else if(f==1)

{

f=0;

question(10);

}

else

{

answer(p);

l--;

}

}

else if(opt==1)

{

System.out.println("\nEnter your choice.");

int ans=sc.nextInt();

if(ans==rans)

money();

else if(ans>=1&&ans<=4&&ans!=rans)

wrongans();

else

{

System.out.println("Invalid input. Please select again");

answer(i);

}

}

else

{

System.out.println("Invalid input. Please select again.");

answer(i);

}

}

public void money()

{

Scanner sc=new Scanner(System.in);

money+=10;

if(money<100)

{

System.out.println("\n\nYour answer is correct.\nCongratulations. Your total earnings are: "+money+" lacs\n\n");

question(i);

}

else if(money==100)

{

System.out.println("\n\nCongratulations. You have won the game. Total earnings: 1 crore.\nThank You for playing.");

System.exit(0);

}

}

public void wrongans()

{

Scanner sc=new Scanner(System.in);

System.out.println("Sorry. You gave the wrong answer. Correct answer is:\t"+rans);

System.out.println("Your total earnings are:\t"+money+" lacs");

System.out.println("Thank You for playing. Press 1 to play again, press 0 to exit.");

ex=sc.nextInt();

}

}

import kbc1.\*;

import kbc2.\*;

import java.io.Console;

import java.util.\*;

public class KBC\_RUN

{

public static void main(String[] args)

{

Console console = System.console();

qb q=new qb();

lifeline lf=new lifeline();

Scanner sc=new Scanner(System.in);

int i=0;

System.out.println("Kindly enter your name.");

String name=sc.nextLine();

System.out.println("\nThis is a paid version only. If you are a registered user, kindly enter your password.\n");

System.out.println("Password will not be visible on screen for security reasons");

char[] passwordChars = console.readPassword();

String passwordString = new String(passwordChars);

String right="abcde";

if(passwordString.compareTo(right)==0)

System.out.println("Hello\t"+name+"\nWelcome to Kaun Banega Crorepati.\nShall we begin?\n1.Yes\t2.No");

else

{

System.out.println("Wrong password. Please try again.");

main(args);

}

int play=sc.nextInt();

if(play==1)

{

q.question(i);

}

else if(play==2)

System.out.println("Thank you for not playing. It's a huge compliment.");

else

{

System.out.println("Invalid input. Please select again.");

main(args);

}

if(q.ex==1)

{

lf.i=0;

q.j=-1;

lf.l=3;

q.money=0;

lf.flag1=0;

lf.flag2=0;

lf.flag3=0;

lf.flag4=lf.flag5=0;

main(args);

}

else if(q.ex==0)

System.exit(0);

else

System.exit(0);

}

}

**OUTPUT:**

Kindly enter your name.

Rahul Sharma

This is a paid version only. If you are a registered user, kindly enter your password.

Password will not be visible on screen for security reasons

Wrong password. Please try again.

Kindly enter your name.

Rahul Sharma

This is a paid version only. If you are a registered user, kindly enter your password.

Password will not be visible on screen for security reasons

Hello Rahul Sharma

Welcome to Kaun Banega Crorepati.

Shall we begin?

1.Yes 2.No

1

Q.)

Who was the first President of independent India?

1=Jawaharlal Nehru 2=MK Gandhi

3=Rajendra Prasad 4=Bhagat Singh

Would you like to 1.)Continue or 2.)Use Lifeline?

1

Enter your choice.

3

Your answer is correct.

Congratulations. Your total earnings are: 10 lacs

Q.)

On the basis of area, which country is the largest country is the world?

1=USA 2=Russia

3=India 4=China

Would you like to 1.)Continue or 2.)Use Lifeline?

1

Enter your choice.

1

Sorry. You gave the wrong answer. Correct answer is: 2

Your total earnings are: 10 lacs

Thank You for playing. Press 1 to play again, press 0 to exit.

1

Kindly enter your name.

Rajesh Mishra

This is a paid version only. If you are a registered user, kindly enter your password.

Password will not be visible on screen for security reasons

Hello Rajesh Mishra

Welcome to Kaun Banega Crorepati.

Shall we begin?

1.Yes 2.No

1

Q.)

On the basis of area, which country is the largest country is the world?

1=USA 2=Russia

3=India 4=China

Would you like to 1.)Continue or 2.)Use Lifeline?

1

Enter your choice.

2

Your answer is correct.

Congratulations. Your total earnings are: 10 lacs

Q.)

Which building is currently the tallest building in the world?

1=One World Trade Center 2=Burj Khalifa

3=Shanghai Tower 4=Petronas Twin Towers

Would you like to 1.)Continue or 2.)Use Lifeline?

1

Enter your choice.

2

Your answer is correct.

Congratulations. Your total earnings are: 20 lacs

Q.)

Which cricketer currently holds the record for the highest batting average in test matches?

1=Vivian Richards 2=Sachin Tendulkar

3=Brian Lara 4=Don Bradman

Would you like to 1.)Continue or 2.)Use Lifeline?

2

Enter lifeline required:

1.Fifty:fifty

2.Ask the expert

3.Change the question

4.Go back to current question.

1

The two possible correct options are:

[2] [4]

Would you like to 1.)Continue or 2.)Use Lifeline?

1

Enter your choice.

4

Your answer is correct.

Congratulations. Your total earnings are: 30 lacs

Q.)

Which player currently posseses the maximum number of FIFA Ballon d'Or awards?

1=Lionel Messi 2=Cristiano Ronaldo

3=Zinedane Zidane 4=Ronaldinho Gaucho

Would you like to 1.)Continue or 2.)Use Lifeline?

2

Enter lifeline required:

1.Fifty:fifty

2.Ask the expert

3.Change the question

4.Go back to current question.

2

Today's expert says the right answer is: 1

Would you like to 1.)Continue or 2.)Use Lifeline?

1

Enter your choice.

1

Your answer is correct.

Congratulations. Your total earnings are: 40 lacs

Q.)

Which Indian-American business executive is currently the CEO of the world's largest search engine?

1=Sundararajan Pichai 2=Azim Premji

3=Satya Nadella 4=Bobby Jindal

Would you like to 1.)Continue or 2.)Use Lifeline?

1

Enter your choice.

1

Your answer is correct.

Congratulations. Your total earnings are: 50 lacs

Q.)

Which American, along with Steve Jobs, co-founded Apple?

1=Leonard Bosack 2=Bill Gates

3=Evan Williams 4=Steve Wozniak

Would you like to 1.)Continue or 2.)Use Lifeline?

1

Enter your choice.

4

Your answer is correct.

Congratulations. Your total earnings are: 60 lacs

Q.)

Who was the first President of independent India?

1=Jawaharlal Nehru 2=MK Gandhi

3=Rajendra Prasad 4=Bhagat Singh

Would you like to 1.)Continue or 2.)Use Lifeline?

2

Enter lifeline required:

1.Fifty:fifty

2.Ask the expert

3.Change the question

4.Go back to current question.

3

Q.)

Which Computer Scientist was the creator of the programming language called 'C'?

1=Steve Jobs 2=Guido van Rossum

3=Dennis Ritchie 4=Bjarne Stroustrup

Would you like to 1.)Continue or 2.)Use Lifeline?

1

Enter your choice.

3

Your answer is correct.

Congratulations. Your total earnings are: 70 lacs

Q.)

Who is currently the President of the People's Republic of China?

1=Lee Hsien Loong 2=Kim Jong Un

3=Xi Jinping 4=Shinzo Abe

Would you like to 1.)Continue or 2.)Use Lifeline?

2

Enter lifeline required:

1.Fifty:fifty

2.Ask the expert

3.Change the question

4.Go back to current question.

1

You have already used this lifeline. Please choose again.

Enter lifeline required:

1.Fifty:fifty

2.Ask the expert

3.Change the question

4.Go back to current question.

2

You have already used this lifeline. Please choose again.

Enter lifeline required:

1.Fifty:fifty

2.Ask the expert

3.Change the question

4.Go back to current question.

3

You have already used this lifeline. Please choose again.

Enter lifeline required:

1.Fifty:fifty

2.Ask the expert

3.Change the question

4.Go back to current question.

4

Q.)

Who is currently the President of the People's Republic of China?

1=Lee Hsien Loong 2=Kim Jong Un

3=Xi Jinping 4=Shinzo Abe

Would you like to 1.)Continue or 2.)Use Lifeline?

1

Enter your choice.

3

Your answer is correct.

Congratulations. Your total earnings are: 80 lacs

Q.)

What also is a nick name for The United States presidential state car?

1=Beast 2=Leopard

3=King 4=Car One

Would you like to 1.)Continue or 2.)Use Lifeline?

1

Enter your choice.

1

Your answer is correct.

Congratulations. Your total earnings are: 90 lacs

Q.)

What city is the financial Capital of India?

1=New Delhi 2=Kolkata

3=Bangalore 4=Mumbai

Would you like to 1.)Continue or 2.)Use Lifeline?

1

Enter your choice.

4

Congratulations. You have won the game. Total earnings: 1 crore.

Thank You for playing.

**--------------X--------------**