# “Random”HongBao

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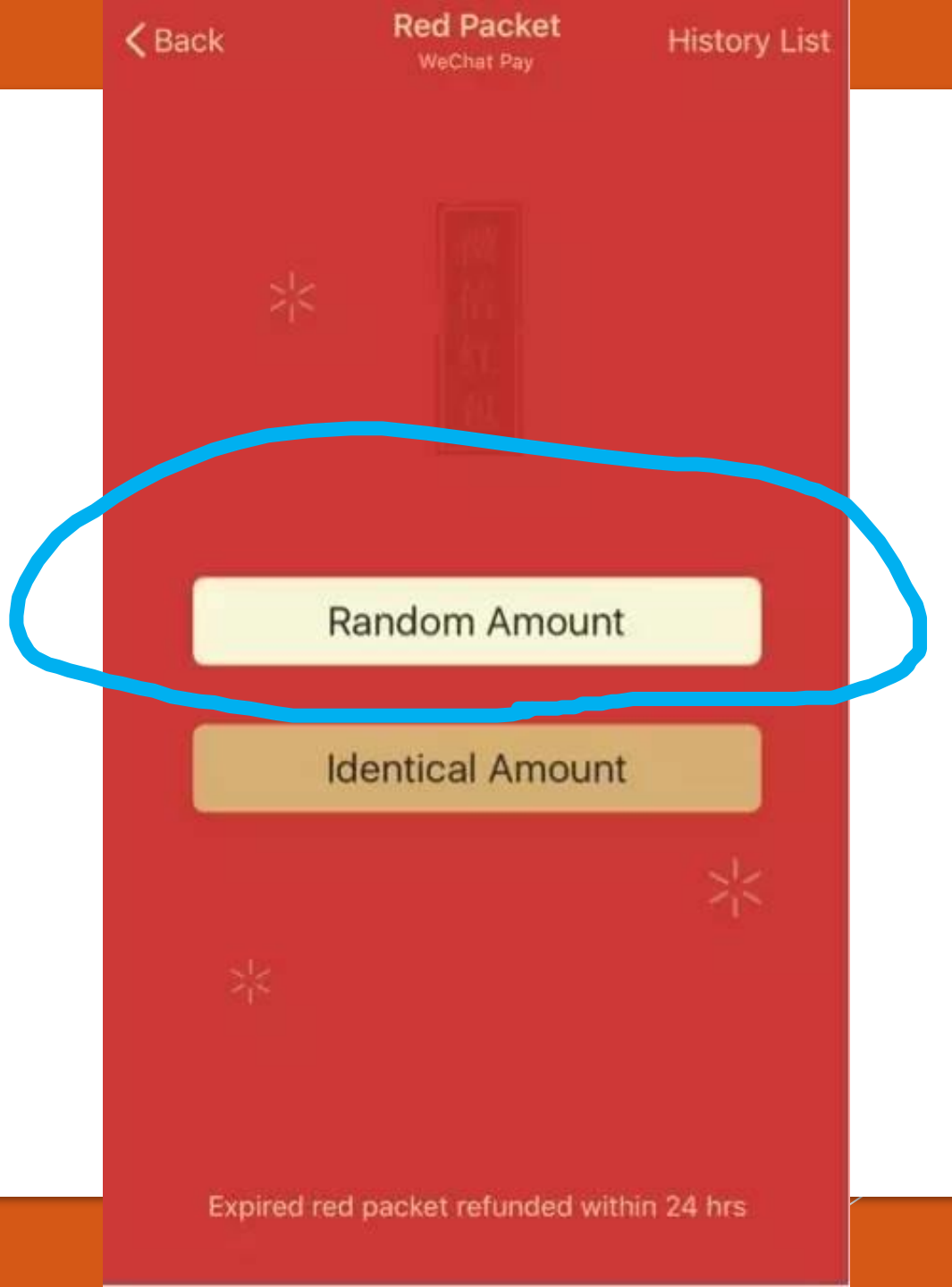
Back
Red Packet
WeChat Pay
History List
Random Amount
Identical Amount
Expired red packet refunded within 24 hrs

```java
import java.util.Scanner;
public class HongBao {

    public static void main(String[] args) {
        Scanner input=new Scanner(System.in);
        System.out.print("Number of money: ");
        double money=input.nextDouble();
        System.out.print("Number of people: ");
        int numberofpeople=input.nextInt();

        System.out.println("Do you want to improve the probability of someone to winning?\n"
                + "enter 1 as yes    enter 2 as no");
        int want=input.nextInt();
        if (want==2) {
            ramdomhongbao(money,numberofpeople);
        }
        else {
            System.out.print("Please enter which one you want give the biggest Hongbao: ");
            int expect=input.nextInt();
            defined(money,numberofpeople,(expect-1));
            System.out.print("\n");
            defined(money,numberofpeople,(expect-1));
            System.out.print("\n");
            defined(money,numberofpeople,(expect-1));
        }
    }

```

# Main part

```
public static void ramdomhongbao(double money, int numberofpeople) {
        //achieve random
    double[]people=new double [numberofpeople];
    int m=(int)(money*100);
    double finalmoney=money*100;
    for(int i=0;i<numberofpeople;i++) {
        if(i<numberofpeople-1) {
            people[i]=Math.floor((Math.random()*(m-(numberofpeople-i-1))+1))/100;
            m=m-(int)(people[i]*100);
        }
        else{
            for(int j=0;j<i;j++) {
                finalmoney=finalmoney-people[j]*100;
            }
            people[i]=Math.ceil(finalmoney)/100;
        }
    }
```

# How to come out Random Amount HongBao?

- I used people[i] to store the amount of money of everyone
- If the total money is 100 ¥ , and there are 10 people can take part in grabbing Hongbao,
- The first amount of people[i] is between 0.01-99.91 ¥ (since everyone should get a Hongbao)
- Let the amount of first one be 45 ¥
- So, the next amount of people[i] is between 0.01-54.2 ¥
- ……

```
double[]exchange=new double [numberofpeople];
double index=0;
for(int i=0;i<numberofpeople;i++) {
    int k=(int)(Math.random()*numberofpeople);
    if(people[k]!=0) {
        index=people[k];
        people[k]=0;
        exchange[i]=index;
        System.out.printf("%-10.2f",exchange[i]);
    }
    else {
        i--;
    }
```

# How to achieve random

HongBao.java | hh.java | test.java

```java
package x;

public class test {
    public static void main(String[] args) {
        int numberofpeople=10;
        double[]exchange=new double [numberofpeople];
        double index=0;
        double[]people=new double [numberofpeople];
        for(int i=0;i<numberofpeople;i++) {
            people[i]=i;
        }

        for(int i=0;i<numberofpeople;i++) {
         int k=(int)(Math.random()*numberofpeople);
          if(people[k]!=0) {
            index=people[k];
            people[k]=0;
            exchange[i]=index;
            System.out.printf("%-10.2f",exchange[i]);
        }
        else {
            i--;
        }

}
}
}
```

Problems | Javadoc | Declaration | Console

```
test (1) [Java Application] C:\Program Files\Java\jdk1.8.0_211\bin\javaw.exe (2019年12月11日 下午12:08:30)
4.00      8.00      1.00      5.00      7.00      9.00      3.00      2.00      6.00
```

```java
public static void ramdomhongbao(double money, int numberofpeople) {
        //achieve random
    double[]people=new double [numberofpeople];
    int m=(int)(money*100);
    double finalmoney=money*100;
    for(int i=0;i<numberofpeople;i++) {
        if(i<numberofpeople-1) {
            people[i]=Math.floor((Math.random()*(m-(numberofpeople-i-1))+1))/100;
            m=m-(int)(people[i]*100);
        }
        else{
            for(int j=0;j<i;j++) {
                finalmoney=finalmoney-people[j]*100;
            }
            people[i]=Math.ceil(finalmoney)/100;
        }
    }
        double[]exchange=new double [numberofpeople];
        double index=0;
        for(int i=0;i<numberofpeople;i++) {
            int k=(int)(Math.random()*numberofpeople);
            if(people[k]!=0) {
                index=people[k];
                people[k]=0;
                exchange[i]=index;
                System.out.printf("%-10.2f",exchange[i]);
            }
            else {
                i--;
            }
    }
        }
```

# Common way to Random Amount HongBao

# How can we get the biggest Hongbao?

# Result

```
Number of money: 100
Number of people: 8
Do you want to improve the probability of someone to winning?
enter 1 as yes    enter 2 as no
2
76.70     0.01      2.29      0.02      0.01      5.05      0.03      15.89
```

```
Number of money: 50
Number of people: 5
Do you want to improve the probability of someone to winning?
enter 1 as yes    enter 2 as no

2
0.59      38.24     0.35      7.78      3.04
```

```
    public static void defined (double money, int numberofpeople,int special) {
        //achieve random
    double[]people=new double [numberofpeople];
    int m=(int)(money*100);
    double finalmoney=money*100;
    for(int i=0;i<numberofpeople;i++) {
        if(i<numberofpeople-1) {
            people[i]=Math.floor((Math.random()*(m-(numberofpeople-i-1))+1))/100;
            m=m-(int)(people[i]*100);
        }
        else{
            for(int j=0;j<i;j++) {
                finalmoney=finalmoney-people[j]*100;
            }
            people[i]=Math.ceil(finalmoney)/100;
        }
    }
    double index=0;
    double max=0;
    int record=0;
    for(int i=0;i<numberofpeople;i++) {
        max=Math.max(people[i],index);
        index=max;
        if (index==people[i]) {
            record=i;
        }
    }
    people[0]=people[special];
    people[special]=max;
    for(int i=0;i<numberofpeople;i++) {System.out.printf("%-10.2f",people[i]); }
}
}
```

# A special way to **assign** one person to get the biggest one

# Give the biggest value to special people

```
    double index=0;
    double max=0;
    int record=0;
    for(int i=0;i<numberofpeople;i++) {
        max=Math.max(people[i],index);
        index=max;
        if (index==people[i]) {
            record=i;
        }
    }
    people[0]=people[special];
    people[special]=max;
    for(int i=0;i<numberofpeople;i++) {System.out.printf("%-10.2f",people[i]); }
}
```

```
Number of money: 70
Number of people: 5
Do you want to improve the probability of someone to winning?
enter 1 as yes    enter 2 as no
1
Please enter which one you want give the biggest Hongbao: 3
5.34      8.04      55.70     0.36      0.57
0.39      1.89      67.36     0.19      0.17
12.76     13.86     38.61     2.90      1.87
```

# Result

# Thank you