**HAPPY NUMBERS:**

**PROGRAM:**

**package happynumber;**

**public class Happynumber {**

**public static int Check\_happy(int num) {**

**int res=0;**

**while(num!=0) {**

**int rem=num%10;**

**res=(rem\*rem)+res;**

**num=num/10;**

**}**

**return res;**

**}**

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

**int num=45;**

**int res= *Check\_happy*(num);**

**while(res!=1 && res!=4) {**

**res=*Check\_happy*(res);**

**}**

**if(res==1) {**

**System.*out*.println("It is a happy number");**

**}**

**else {**

**System.*out*.println("It is not a happy number");**

**}**

**}**

**}**

**OUTPUT:**

**It is not a happy number**

**TO FIND 1 TO 10000 HAPPY NUMBERS:**

**PROGRAM:**

**public class Happynumber {**

**public static int Check\_happy(int k) {**

**int res=0;**

**while(k!=0) {**

**int rem=k%10;**

**res=(rem\*rem)+res;**

**k=k/10;**

**}**

**return res;**

**}**

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

**for(int k=1;k<=10000;k++) {**

**int res= *Check\_happy*(k);**

**while(res!=1 && res!=4) {**

**res=*Check\_happy*(res);**

**}**

**if(res==1) {**

**System.*out*.println(k);**

**}**

**}**

**}**

**}**