Problem1

```
Import java.util.Scanner;
public class Problem1 {
  Public static void main(String [] args){
     Scanner sc = new Scanner(System.In);
     System.out.print("Enter an integer:");
     int number = sc.nextInt();
     System.out.println((number &1)==0 ? "even":"odd");
     sc.close();
  }
}
```

Problem 2

```
Import java.util.Scanner;
public class Problem 2 {
   public static void main(String [] args){
   Scanner sc= new Scanner(System.in);
   System.out.print("Enter Swimming Ducks count:");
   while (true){
     int n = sc. nextInt();
     if(n<=0) System.out.println(Ahen cmfe cont tcfs
     else { String [] Ducks UppB = {'<(^)___ ' '' =(-)___ '''
  Strings [] Duck.UppB = {'<(^)___'', ''=(-)___'___;}
```

```
for(int i=0; i<n; i++) {
    System.out.println(Ducks[i] + Ducks[i].length);
}
System.out.println();
for (int i=0; i<n; i++){
    System.out.print("  \\__/");
}
    sc.close(); break;
}
}
}
```

Problem 3.

```
import java.util.Scanner;
Public class Problem3 {
    Public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter Thigh h");
        int n = sc.nextInt();
        for(i=0; i<4; i++) {
        for (int j=1; j<=i+1; j++) System.out.print("#");
        for (int j=2*n-i; j>=i+1; j--) System.out.print("  ");
        for (int j=1; j<=i+1; j++) System.out.print("#");
        System.out.println();
```

```
for (int j=1; j<=n-i; j++) System.out.print("#");
for (int j=1; j<=2*(i+1); j++) System.out.print("*");
for (int j=1; j<=n-i; j++) System.out.print("#");
System.out.println();
}
sc.close(); }}
```

Problem 4.

```
import java.util.Scanner;
public class Problem4 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a sentence: ");
        String sentence = sc.nextLine();
        char[] charArray = sentence.toCharArray();
        int left=0;
        int right = charArray.length-1;
        while (left < right) {
            temp = charArray[left];
            charArray[left] = charArray[right];
            charArray[right] = temp;
            left++; right--;
        } System.out.println(charArray);
    sc.close();
}
}
```

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Problem 5

```
import java.util.Scanner;
public class Problem5 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter an A40 ID");
        String input = sc.nextLine();
        if (input.length() != 8) System.out.println("false")
        else {boolean answer = true;
            for (int i=0; i<2; i++){
                if (!Character.isLetter(input.charAt(i))) {
                    answer = false; break;
                }
            for (int i=2; i<8; i++)
            if (!Character.isDigit(input.charAt(i))){
                answer = false; break; }
            }
            if(answer) System.out.println(true)
            else System.out.println(false)
        } sc.close();
    }
}
```

Problem 6

```
import java.util.Scanner;

public class Problem6{

    public static void main (String[] args){

        Scanner sc = new Scanner(System.in);
        System.out.println("Enter an integer value");
        int value = sc.nextInt();
        sc.close();
        System.out.println("Powers of two that make up the
        for (int i=0; i<32; i++){
            if((value & (1<<i)) != 0){
                System.out.println(1<<i);
                System.out.println(" ");
            }
        }
    }
}
```