JAVA PROGRAMMING
ASSIGNMENT 1

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1. The following table shows the employees code and the percentage of bonus for the value of basic pay.

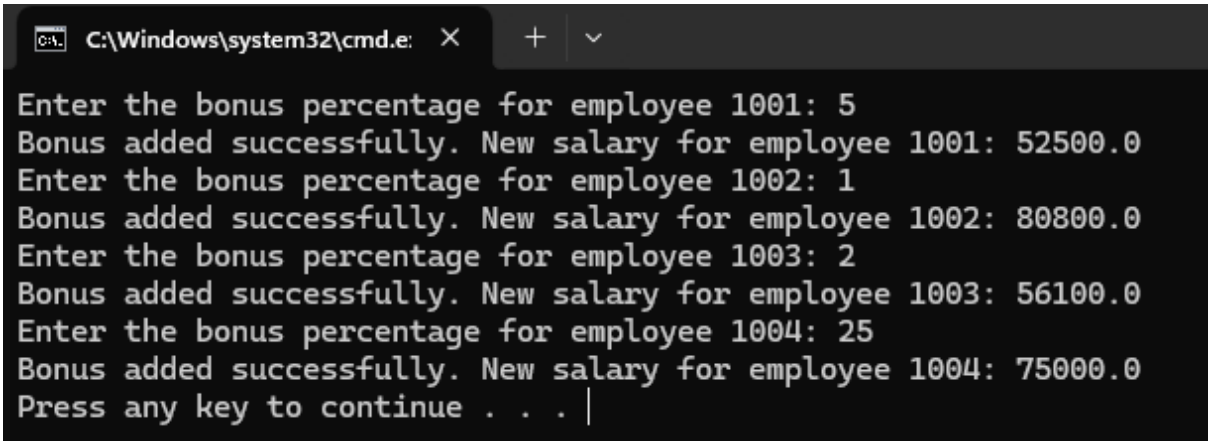
Employee code	Bonus
100	5
200	1
300	2
400	25

PROGRAM:

```
import java.util.*;

class employee {
int e_code;
int bonus;
float salary;
Scanner sc=new Scanner(System.in);

employee(int code,float salary) {
this.e_code = code;
this.salary = salary;
}


void increment() {
System.out.print("Enter the bonus percentage for employee " + this.e_code + ": ");
this.bonus = sc.nextInt();
this.salary = this.salary + (this.salary * this.bonus / 100);
System.out.println("Bonus added successfully. New salary for employee " + this.e_code + ":
" + this.salary);
}
}

public class employee_bonus {
public static void main(String[] args) {
Scanner sc = new Scanner(System.in);
employee e1=new employee(1001,50000);
employee e2=new employee(1002,80000);
employee e3=new employee(1003,55000);
employee e4=new employee(1004,60000);
```

```
e1.increment();
e2.increment();
e3.increment();
e4.increment();

}
}
```

OUTPUT:



2. Write a program to display the following output using for loop:

(a)

1
1 2
1 2 3
1 2 3 4
1 2 3 4 5

(b)

1
2 2
3 3 3
4 4 4 4
5 5 5 5 5

(c)

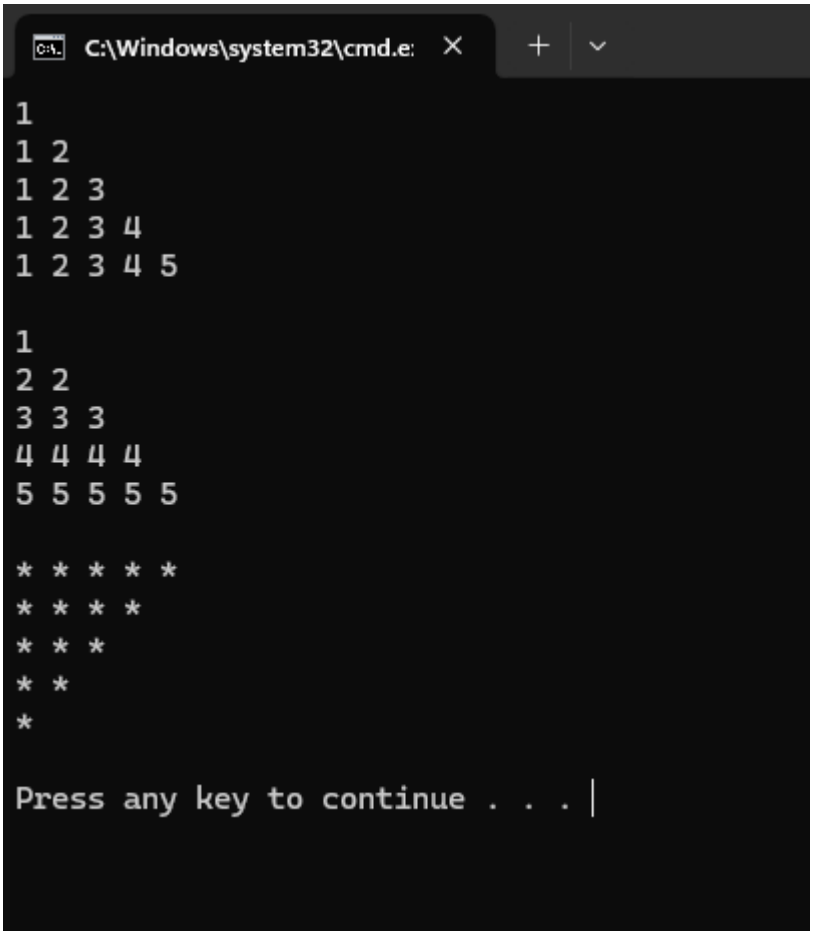
*** * * * ***
*** * * ***
*** * ***
*** ***
*****

PROGRAM:

```
public class NumberPattern {
public static void main(String[] args) {

for (int i = 1; i <= 5; i++) {

for (int j = 1; j <= i; j++) {
System.out.print(j + " ");
}

System.out.println();
}
System.out.println();
for (int i = 1; i <= 5; i++) {

for (int j = 1; j <= i; j++) {
System.out.print(i + " ");
}
System.out.println();
}
System.out.println();
for (int i = 5; i >=0; i--) {

for (int j = i; j >0; j--) {
```

```
System.out.print("* ");
}
System.out.println();
}
}
}
```

OUTPUT:



3. Write a program that performs the following: If the user gives input as 1, the output is 2; if the input is 2 then the output becomes 1.

PROGRAM:

```
import java.util.*;

class simpleif {

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int num;
        System.out.print("Enter a number:");
        num = sc.nextInt();

        if (num == 1 || num == 2) {
            if (num == 1) {
                num = 2;
            } else {
                num = 1;
            }
        }
        System.out.println("output:" + num);

    }
}
```

OUTPUT:

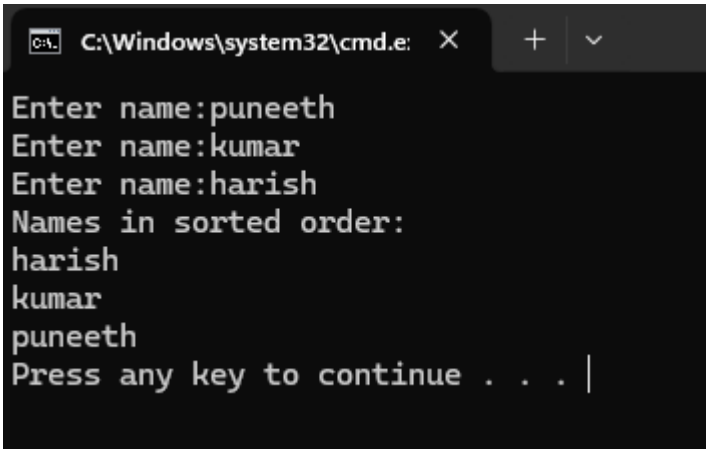
```
D:\bmsce\2sem\Java programming\1stweek>java simpleif
Enter a number:1
output:2

D:\bmsce\2sem\Java programming\1stweek>java simpleif
Enter a number:2
output:1
```

4. Write and run a Java program that inputs three names and print them in their alphabetical order.

PROGRAM:

```
import java.util.*;

class alphabetic{

public static void main(String[] args){
Scanner sc= new Scanner(System.in);
String names[]= new String[3];
for(int i=0; i<names.length;i++){
System.out.print("Enter name:");
names[i]=sc.nextLine();

}
Arrays.sort(names);

System.out.println("Names in sorted order:");
for(String name : names){
System.out.println(name);
}
}
}
```

OUTPUT:



5. A number is said to be palindrome if it is invariant under reversion; that is, the number is the same if its digits are reversed. For example, 3456543 is palindromic. Write a program that checks each of the fi rst 10,000 prime numbers and prints those that are palindromic.

Program:

```
public class myclass {
   public static boolean isPrime(int n) {
      if (n <= 1) {
         return false;}
      if (n == 2) {
         return true;}
      if (n % 2 == 0) {
         return false;}
      for (int i = 3; i <= Math.sqrt(n); i += 2) {
         if (n % i == 0) {
            return false;
         }}
      return true; }

   public static boolean isPalindrome(int n) {
      String str = Integer.toString(n);
      int left = 0, right = str.length() - 1;
      while (left < right) {
         if (str.charAt(left++) != str.charAt(right--)) {
            return false;
         } }
      return true; }

   public static void main(String[] args) {
      int count = 0;
      int num = 2;

      while (count < 10000) {
         if (isPrime(num)) {
            count++;
            if (isPalindrome(num)) {

               System.out.println(num);
            } }
         num++; }}}
```

```
D:\bmsce\2sem\Java programming\1stweek>java primepalindrome
2       3       5       7       11      101     131     151     181     191     313     353     373     383     727     757     787     797     919
    92910301    10501   10601   11311   11411   12421   12721   12821   13331   13831   13931   14341   14741   15451   15551   16061   16361   1656
1   16661   17471       17971   18181   18481   19391   19891   19991   30103   30203   30403   30703   30803   31013   31513   32323   32423   3353
3   34543   34843   35053       35153   35353   35753   36263   36563   37273   37573   38083   38183   38783   39293   70207   70507   70607   7131
7   71917   72227   72727   73037       73237   73637   74047   74747   75557   76367   76667   77377   77477   77977   78487   78787   78887   7939
7   79697   79997   90709   91019   93139       93239   93739   94049   94349   94649   94849   94949   95959   96269   96469   96769   97379   9757
9   97879   98389   98689
```

6. Design a class to represent account, include the following members.
Data Members:

- **Name of depositor—string**
- **Account Number—int**
- **Type of Account—boolean**
- **Balance amount—double**

Methods

- **To assign initial values (using constructor)**
- **To deposit an amount after checking balance and minimum balance 50.**
- **To display the name and balance.**

Program:

```
import java.util.*;

class Myaccount {

    String name;

    int accno;

    boolean typeofacc;//true for savings, false for current.

    int amt;

    float balance;

    Myaccount(int accno, String name, boolean typeofacc, float balance) {

        this.accno = accno;

        this.name = name;

        this.typeofacc = typeofacc;

        if (balance >= 50) {
```

```
            this.balance = balance;
        } else {
            System.out.println("Initial balance is less than 50. Setting balance to 50.");
            this.balance = 50;
        } }
    void deposit(int amt) {
        this.balance = this.balance + amt;}
    void display() {
        System.out.println("Account holder name: " + this.name + "\nBalance:" + this.balance);
    }}
class account {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        Myaccount m1 = new Myaccount(26523, "puneeth", true, 10000);
        m1.display();
        System.out.print("Enter the amount to deposit:");
        int amt = sc.nextInt();
        m1.deposit(amt);
        m1.display();
    }}
```

```
D:\bmsce\2sem\Java programming\1stweek>java account
Account holder name: puneeth
Balance:10000.0
Enter the amount to deposit:25000
Account holder name: puneeth
Balance:35000.0
```