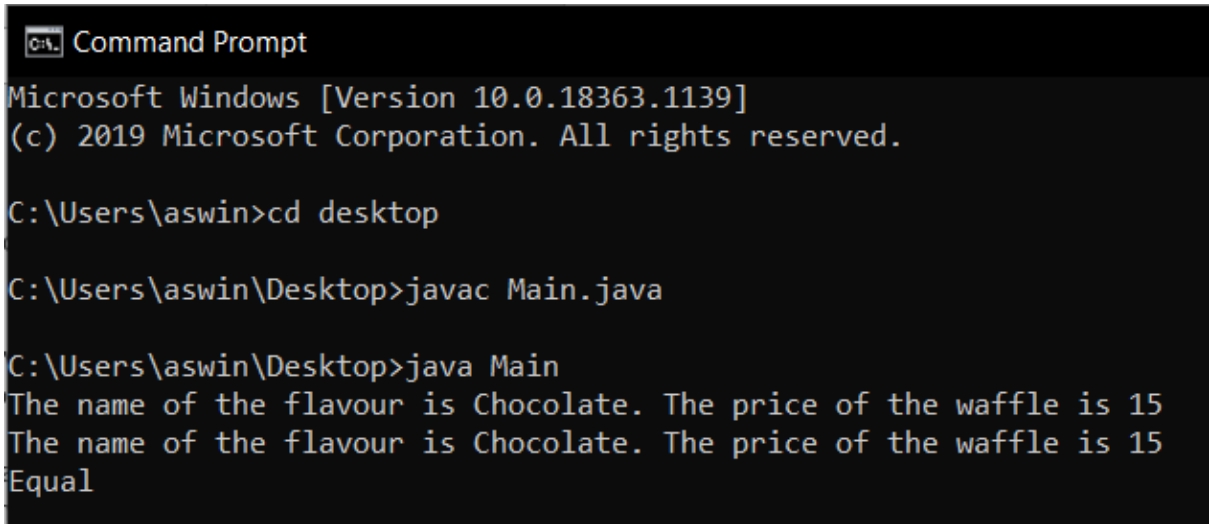
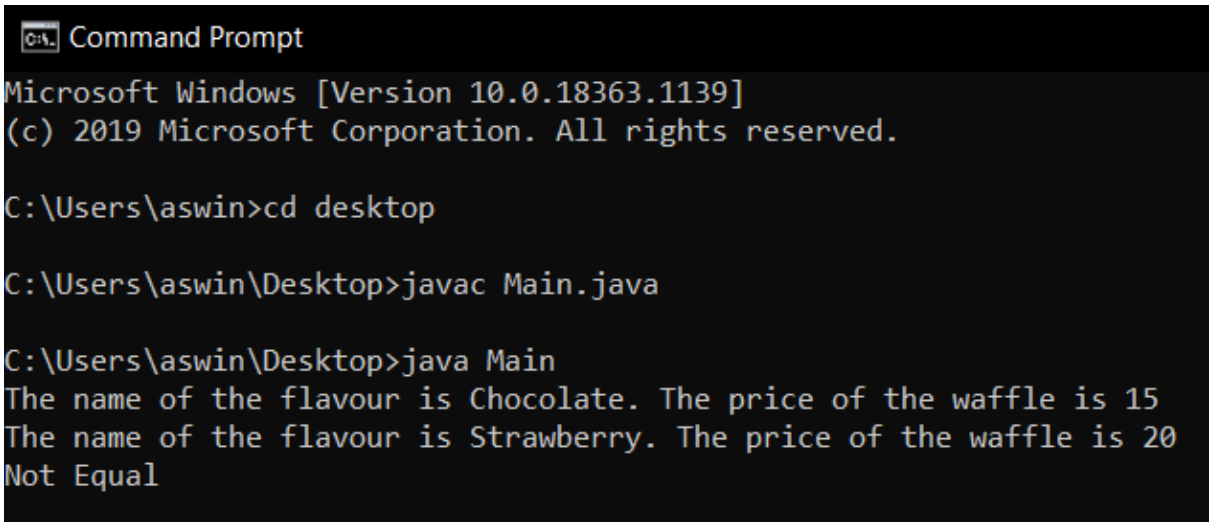
Ex.1

```
class Waffle {


   String flavour;
   int price;
   public Waffle(String flavour,int price)
{
      this.flavour = flavour;
      this.price = price ;
   }
public boolean equals(Waffle o) {
      if (o == this) {
          return true;
      }
      if (!(o instanceof Waffle)) {
         return false;
      }
Waffle c = (Waffle) o;
       return flavour.equals(c.flavour)&& Integer.compare(price, c.price) == 0;
}
public String toString()
{
   return "The name of the flavour is " + this.flavour + ". The price of the waffle is " + this.price;
}
}
// Driver class to test the Complex class
public class Main {


   public static void main(String[] args) {
      Waffle w1 = new Waffle("Chocolate",15 );
      Waffle w2 = new Waffle("Chocolate",15);
      System.out.println(w1.toString());
```

```
        System.out.println(w2.toString());
        if (w1.equals(w2)) {
            System.out.println("Equal ");
        } else {
            System.out.println("Not Equal ");
        }
    }
}
```

Result



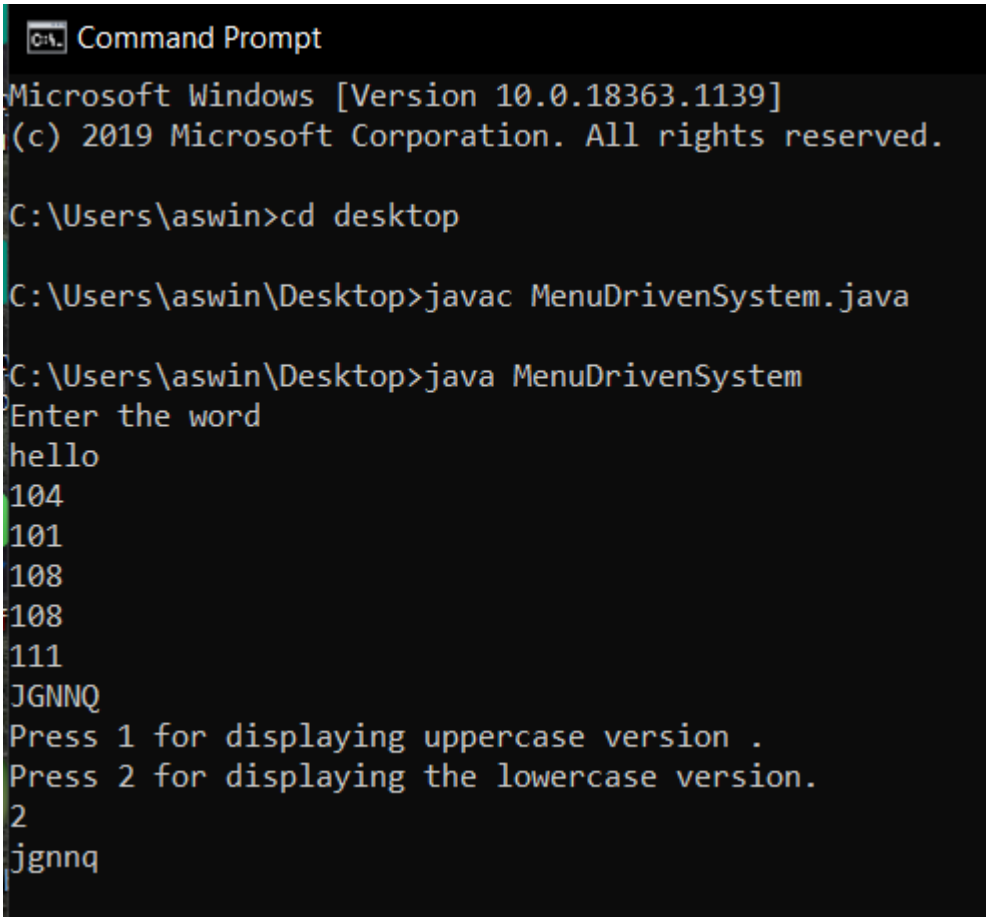


Ex.2

```
import java.util.Scanner;
public class MenuDrivenSystem {
public static void main (String[] args)
{
int m;
char choice,l;
String x=" ",y=" ";
Scanner input = new Scanner(System.in);
System.out.println("Enter the word");
String s = input.next();
int count=s.length();
for(int i=0;i<count;i++)
{
m=(int)s.charAt(i);
System.out.println(m);
m=(m-30);
l=(char)m;
x=String.valueOf(l);
y=y.concat(x);
}
System.out.println(y);
System.out.println("Press 1 for displaying uppercase version .");
System.out.println("Press 2 for displaying the lowercase version.");
String b = input.next();
choice = b.charAt(0);
switch(choice)
{
case '1':
System.out.println(y.toUpperCase());
break;
case '2':
```

```
System.out.println(y.toLowerCase());
break;
default:
System.out.println("Error");
}
}
}
```

Result



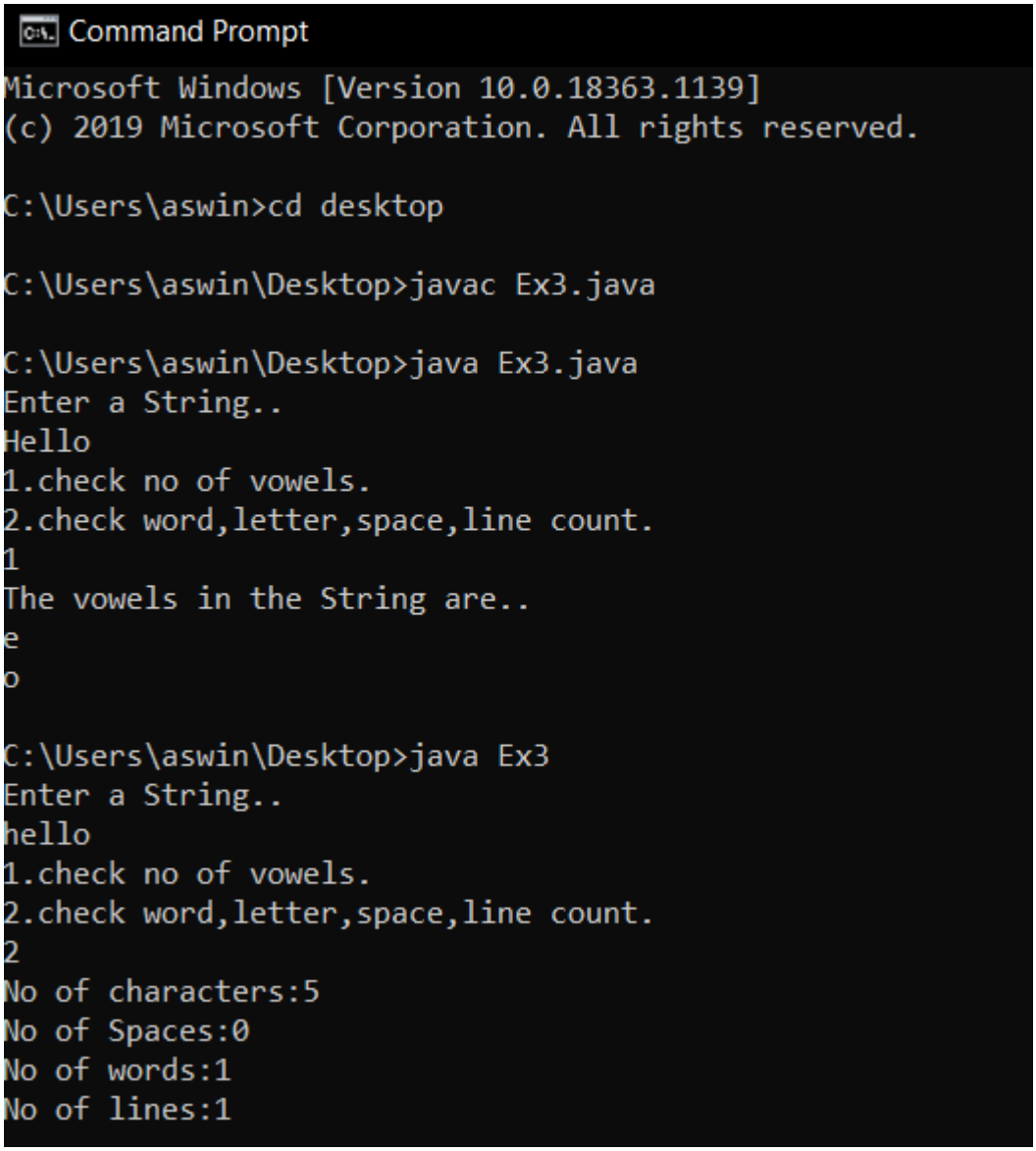
Ex.3

```
import java.util.*;
import java.io.*;
class Ex3{
void vowels(String s)
{
char ch[]=new char[s.length()];
System.out.println("The vowels in the String are..");
for(int i=0;i<s.length();i++)
{ch[i]=s.charAt(i);
}
for(int j=0;j<s.length();j++)
{
if(ch[j]=='a'||ch[j]=='e'||ch[j]=='i'||ch[j]=='o'||ch[j]=='u')
{
System.out.println(ch[j]);
}
}
}
void count(String s)
{
char ch;
int characters=0,space=0,words=1,lines=1;
for(int i=0;i<s.length();i++)
{
ch=s.charAt(i);
if(ch==' ')
{
space++;
}
if(Character.isLetter(ch)||Character.isDigit(ch))
```

```
{
characters++;
}
if(i!=0 && ch==' ')
{
words++;
}
if(ch=='\n')
{
lines++;
}
}
System.out.println("No of characters:"+characters);
System.out.println("No of Spaces:"+space);
System.out.println("No of words:"+words);
System.out.println("No of lines:"+lines);
}
public static void main(String args[])
{
Ex3 e=new Ex3();
String str;
Scanner sc=new Scanner(System.in);
System.out.println("Enter a String..");
str=sc.nextLine();
System.out.println("1.check no of vowels.\n2.check word,letter,space,line count.");
int n;
n=sc.nextInt();
switch(n)
{
case 1:e.vowels(str);
break;
```

```
case 2:e.count(str);
break;
default:System.out.println("Invalid option..");
break;
}
}
}
```

Result



Ex 4

```
import java.util.regex.*;
import java.util.*;
class Aadhar{
public String pat="^[2-9]{1}[0-9]{3}\\s[0-9]{4}\\s[0-9]{4}$";
public Pattern p;
public Matcher m;
void check(String s)
{
p=Pattern.compile(pat);
if(s==null)
{
System.out.println("Aadhar number cannot be empty");
}
m=p.matcher(s);
if(m.matches()){
System.out.println("Valid...");
}
else
{
System.out.println("Invalid Aadhar number..");
}
}
}
class Ex4{
public static void main(String args[])
{
Aadhar obj=new Aadhar();
Scanner sc=new Scanner(System.in);
String Ano;
System.out.println("Enter Your Aadhar number:");
Ano=sc.nextLine();
```

```
obj.check(Ano);
}
}
```

Result