

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

```

C:\> Command Prompt
Microsoft Windows [Version 10.0.18363.1139]
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C:\Users\aswin>cd desktop

C:\Users\aswin\Desktop>javac Main.java

C:\Users\aswin\Desktop>java Main
The name of the flavour is Chocolate. The price of the waffle is 15
The name of the flavour is Chocolate. The price of the waffle is 15
Equal

```

```

C:\> Command Prompt
Microsoft Windows [Version 10.0.18363.1139]
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C:\Users\aswin>cd desktop

C:\Users\aswin\Desktop>javac Main.java

C:\Users\aswin\Desktop>java Main
The name of the flavour is Chocolate. The price of the waffle is 15
The name of the flavour is Strawberry. The price of the waffle is 20
Not Equal

```

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':

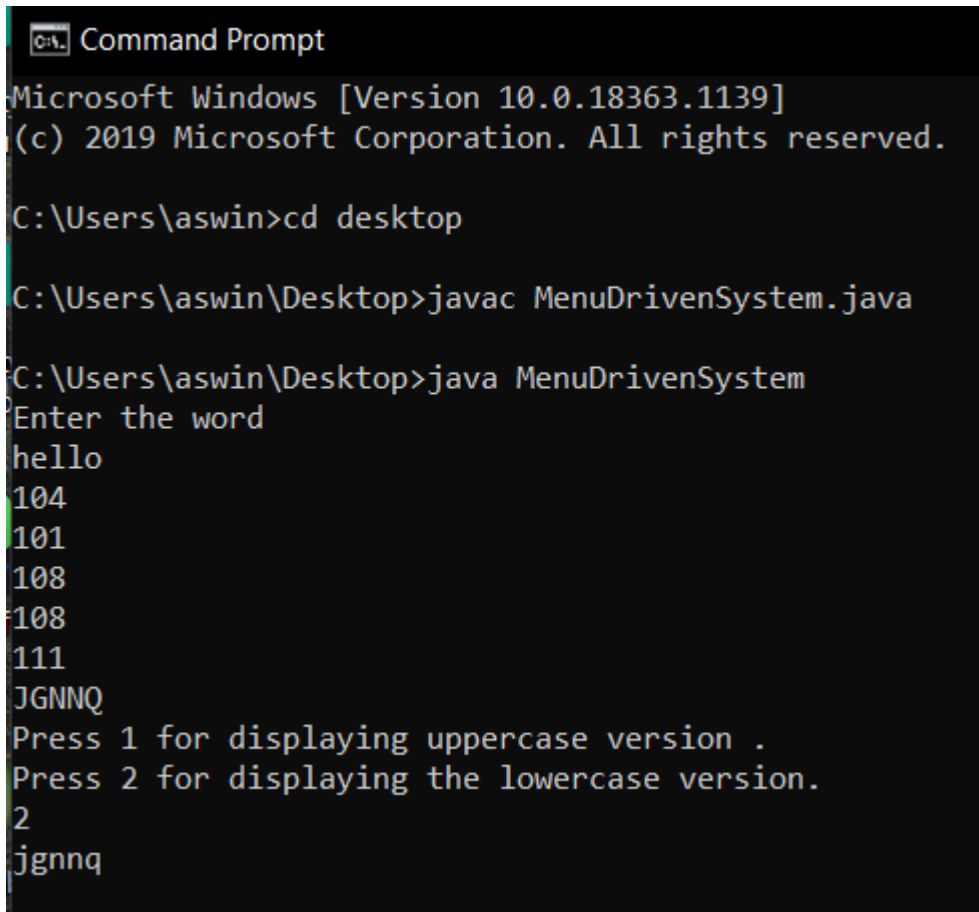
                System.out.println(y.toUpperCase());

                break;

            case '2':
```

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

Result



```
C:\> Command Prompt  
Microsoft Windows [Version 10.0.18363.1139]  
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C:\Users\aswin>cd desktop  
  
C:\Users\aswin\Desktop>javac MenuDrivenSystem.java  
  
C:\Users\aswin\Desktop>java MenuDrivenSystem  
Enter the word  
hello  
h:104  
e:101  
l:108  
l:108  
o:111  
JGNNQ  
Press 1 for displaying uppercase version .  
Press 2 for displaying the lowercase version.  
2  
jgnnq
```

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++;
}
}

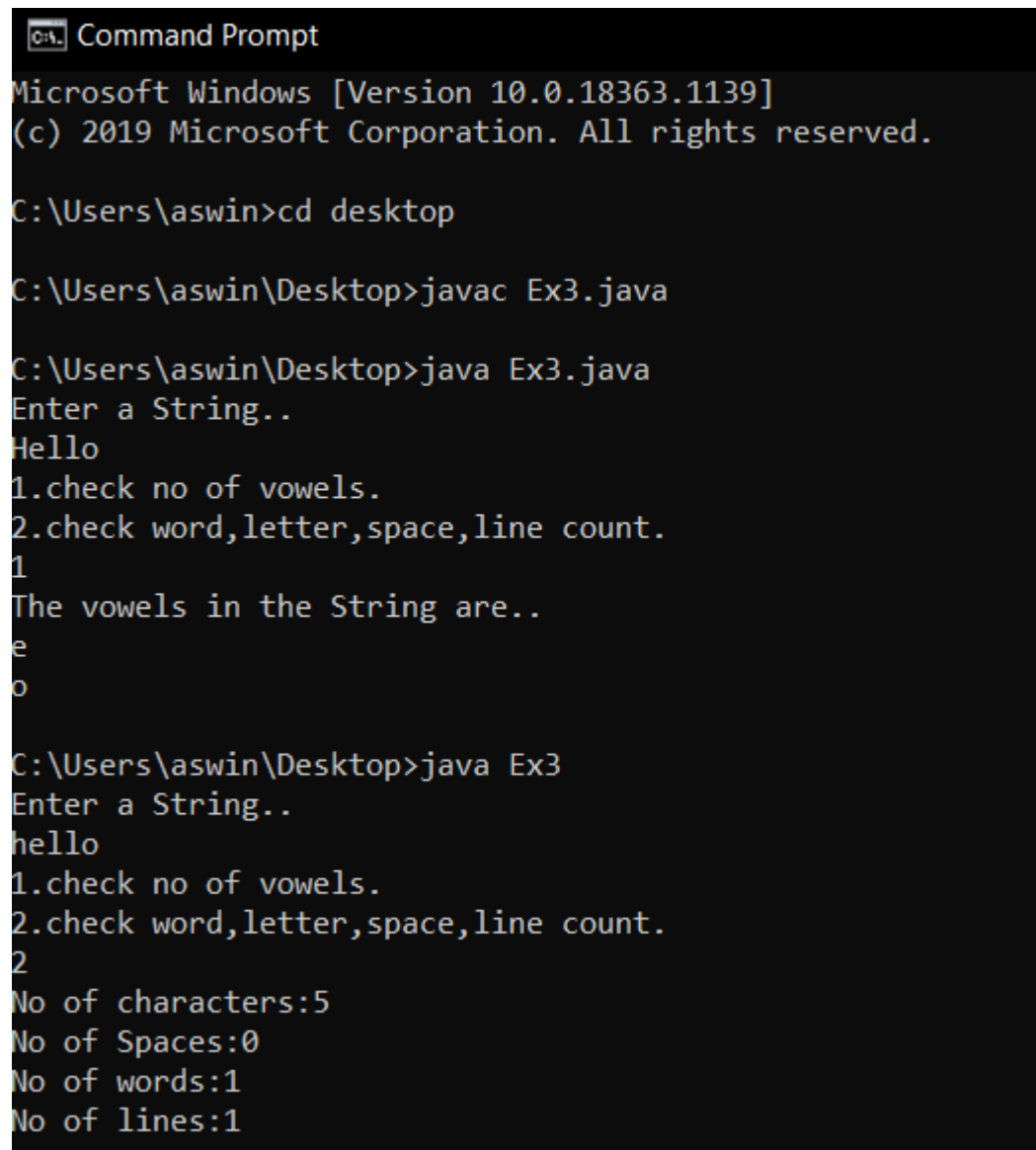
System.out.println("No of characters:"+characters);
System.out.println("No of Spaces:"+space);
System.out.println("No of words:"+words);
System.out.println("No of lines:"+lines);
}

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



```
Command Prompt  
Microsoft Windows [Version 10.0.18363.1139]  
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C:\Users\aswin>cd desktop  
  
C:\Users\aswin\Desktop>javac Ex3.java  
  
C:\Users\aswin\Desktop>java Ex3.java  
Enter a String..  
Hello  
1.check no of vowels.  
2.check word,letter,space,line count.  
1  
The vowels in the String are..  
e  
o  
  
C:\Users\aswin\Desktop>java Ex3  
Enter a String..  
hello  
1.check no of vowels.  
2.check word,letter,space,line count.  
2  
No of characters:5  
No of Spaces:0  
No of words:1  
No of lines:1
```

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();
```

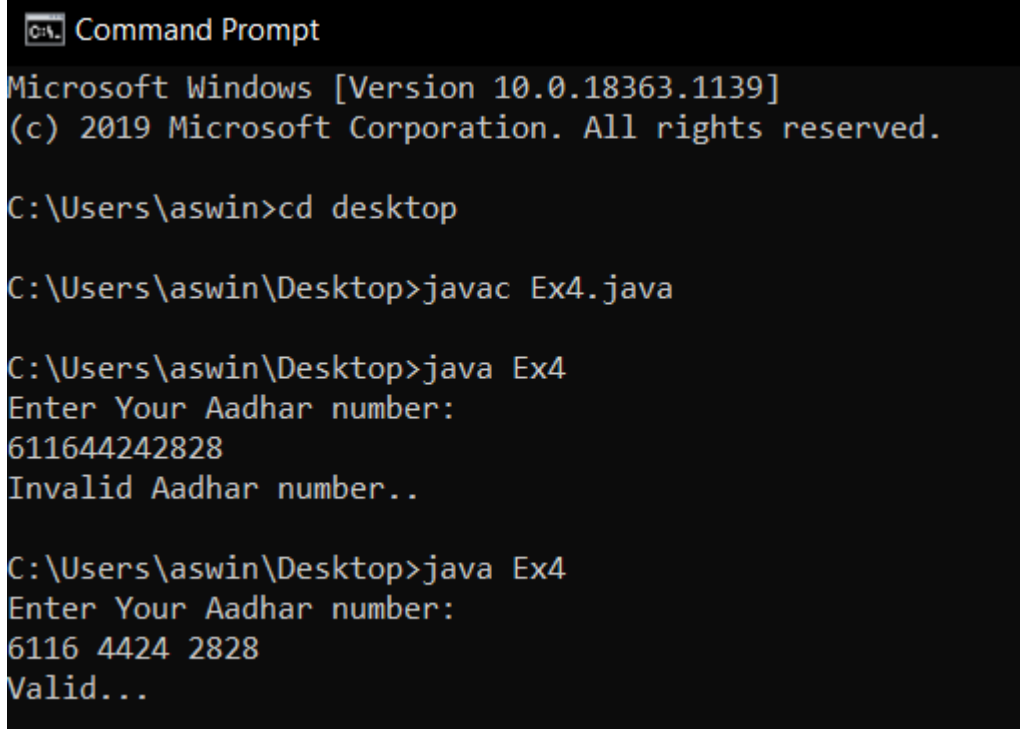


```
obj.check(Ano);
```

```
}
```

```
}
```

Result



```
C:\> Command Prompt
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C:\Users\aswin>cd desktop

C:\Users\aswin\Desktop>javac Ex4.java

C:\Users\aswin\Desktop>java Ex4
Enter Your Aadhar number:
611644242828
Invalid Aadhar number..

C:\Users\aswin\Desktop>java Ex4
Enter Your Aadhar number:
6116 4424 2828
Valid...
```