

JAVA ASSIGNMENT 1

Ques 1: Write a method that overloads the 'speak' method by taking in a name and printing "Hello" with that name.

Sol: Main.java

```
class Name{

    String speak()

    {

        return ("Initial method");

    }

    String speak(String name)

    {

        return name;

    }

}

public class Main{

    public static void main(String args[])

    {

        Name nm = new Name();

        System.out.println("Hello " + nm.speak("Puja") );

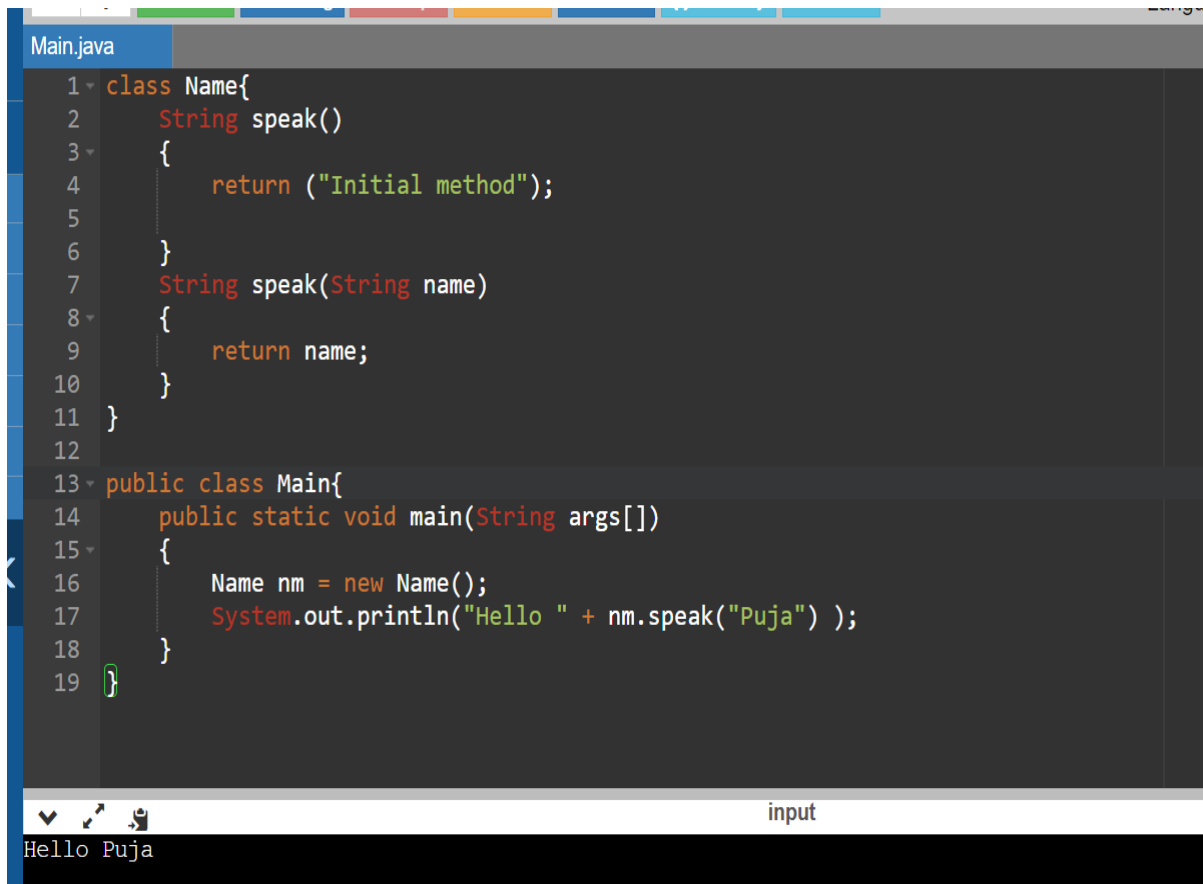
    }

}
```

Output:

Hello Puja

Ques1:



The screenshot shows a Java IDE with a file named 'Main.java'. The code defines a 'Name' class with two 'speak' methods and a 'Main' class with a 'main' method. The output console shows 'Hello Puja'.

```
1 class Name{
2     String speak()
3     {
4         return ("Initial method");
5     }
6     String speak(String name)
7     {
8         return name;
9     }
10 }
11
12
13 public class Main{
14     public static void main(String args[])
15     {
16         Name nm = new Name();
17         System.out.println("Hello " + nm.speak("Puja") );
18     }
19 }
```

input

Hello Puja

Ques 2: Override the taste method from the Candy class in the Chocolate class to return “tastes chocolately”. It should print “tastes sweet!” and then “tastes chocolately”.

Sol: Main.java

```
class Candy{
    public void tastes()
    {
        System.out.println("tastes sweet!");
    }
}

class Chocolate extends Candy{
    public void tastes()
    {
        super.tastes();
        System.out.println("tastes chocolately");
    }
}
```

```
public class Main{
    public static void main(String args[]){
        Chocolate c = new Chocolate();
        c.tastes();
    }
}
```

Output:

tastes sweet!

tastes chocolately

Ques2:

```
Main.java
1 class Candy{
2     public void tastes()
3     {
4         System.out.println("tastes sweet!");
5     }
6 }
7 class Chocolate extends Candy{
8     public void tastes()
9     {
10        super.tastes();
11        System.out.println("tastes chocolately");
12    }
13 }
14
15 public class Main{
16     public static void main(String args[]){
17         Chocolate c = new Chocolate();
18         c.tastes();
19     }
20 }
```

input

tastes sweet!
tastes chocolately

Ques 3 : Write a java program to print the given string in the format as in the output.

Input : text@text,text!text\$text&text

Output:

Text

Text

Text

Text

Text

Text

Sol:

```
public class Main {  
    public static void main(String args[]) {  
        String str = "$#*text@text,text!text$text,&!text*&%^";  
        str = str.replaceAll("[^a-zA-Z]", " "); //replaces everything except alphabets.  
        String p = "";  
        StringBuffer s = new StringBuffer(); //mutable string  
        char ch = ' '; //only for first character capitalized  
        for (int i = 0; i < str.length(); i++) {  
            if (ch == ' ' && str.charAt(i) != ' ' )  
                s.append(Character.toUpperCase(str.charAt(i)));  
            else  
                s.append(str.charAt(i));  
            ch = str.charAt(i);  
        }  
        p = s.toString().trim(); //stringbuffer to string  
        p = p.replaceAll("\\s+", " ").trim(); //removing extraspaces of repeated non-chars  
        for(int i = 0 ; i < p.length(); i++ ) //printing in next line
```

```
{  
    if(p.charAt(i)!=' ')  
    {  
        System.out.print(p.charAt(i));  
    }  
    else  
    {  
        System.out.println("");  
    }  
}
```

Output:

Text

Text

Text

Text

Text

Text

```

Main.java
1 public class Main {
2     public static void main(String args[]) {
3         String str = "$#*text@text,text!text$text,&!text*&%^";
4         str = str.replaceAll("[^a-zA-Z]", " "); //replaces everything except alphabets.
5         String p = "";
6         StringBuffer s = new StringBuffer(); //mutable string
7         char ch = ' '; //only for first character capitalized
8         for (int i = 0; i < str.length(); i++) {
9             if (ch == ' ' && str.charAt(i) != ' ')
10                s.append(Character.toUpperCase(str.charAt(i)));
11            else
12                s.append(str.charAt(i));
13            ch = str.charAt(i);
14        }
15        p = s.toString().trim(); //stringbuffer to string
16        p = p.replaceAll("\\s+", " ").trim(); //removing extraspaces of repeated non-chars
17        for(int i = 0 ; i < p.length(); i++) //printing in next line
18        {
19            if(p.charAt(i)!=' ')
20            {
21                System.out.print(p.charAt(i));
22            }
23            else
24            {
25                System.out.println("");
26            }
27        }
28    }
29 }

```

QUES-3: PROGRAM AND OUTPUT

```

Main.java
1 public class Main {
2     public static void main(String args[]) {
3         String str = "$#*text@text,text!text$text,&!text*&%^";
4         str = str.replaceAll("[^a-zA-Z]", " "); //replaces everything except alphabets.
5         String p = "";
6         StringBuffer s = new StringBuffer(); //mutable string
7         char ch = ' '; //only for first character capitalized
8         for (int i = 0; i < str.length(); i++) {
9             if (ch == ' ' && str.charAt(i) != ' ')
10                s.append(Character.toUpperCase(str.charAt(i)));
11            else
12                s.append(str.charAt(i));
13            ch = str.charAt(i);
14        }
15        p = s.toString().trim(); //stringbuffer to string
16        p = p.replaceAll("\\s+", " ").trim(); //removing extraspaces of repeated non-chars
17        for(int i = 0 ; i < p.length(); i++) //printing in next line

```

input

```

Text
Text
Text
Text
Text
Text
Text
...Program finished with exit code 0
Press ENTER to exit console.

```

Ques 4: Write a program to dynamically initialize memory for storing following values in the following locations:-

2 4 6 8

3 6 9

4 8

5

SOL:

```
class dynamicArray {
    int darr[],count;

    public dynamicArray(int length)
    {   darr = new int[length]; }

    public void displayshape()
    {
        int k = count/2;

        for( int i=0 ; i<=k ;i++)
        {
            for(int j = 0; j<count; j++ )
            {
                if(darr[j]%darr[i] == 0 )
                    System.out.print(darr[j]+" ");
            }
            System.out.println();
        }
    }
}
```



```

public void insert(int value)
{
    if (darr.length == count) {
        int newArr[] = new int[2 * count];
        for (int i = 0; i < count; i++) {
            newArr[i] = darr[i];
        }
        darr = newArr;
    }
    darr[count++] = value;
}
}

```

```

public class Main {
    public static void main(String args[])
    {
        dynamicArray numbers = new dynamicArray(5);
        numbers.insert(2);
        numbers.insert(3);
        numbers.insert(4);
        numbers.insert(5);
        numbers.insert(6);
        numbers.insert(8);
        numbers.insert(9);
    }
}

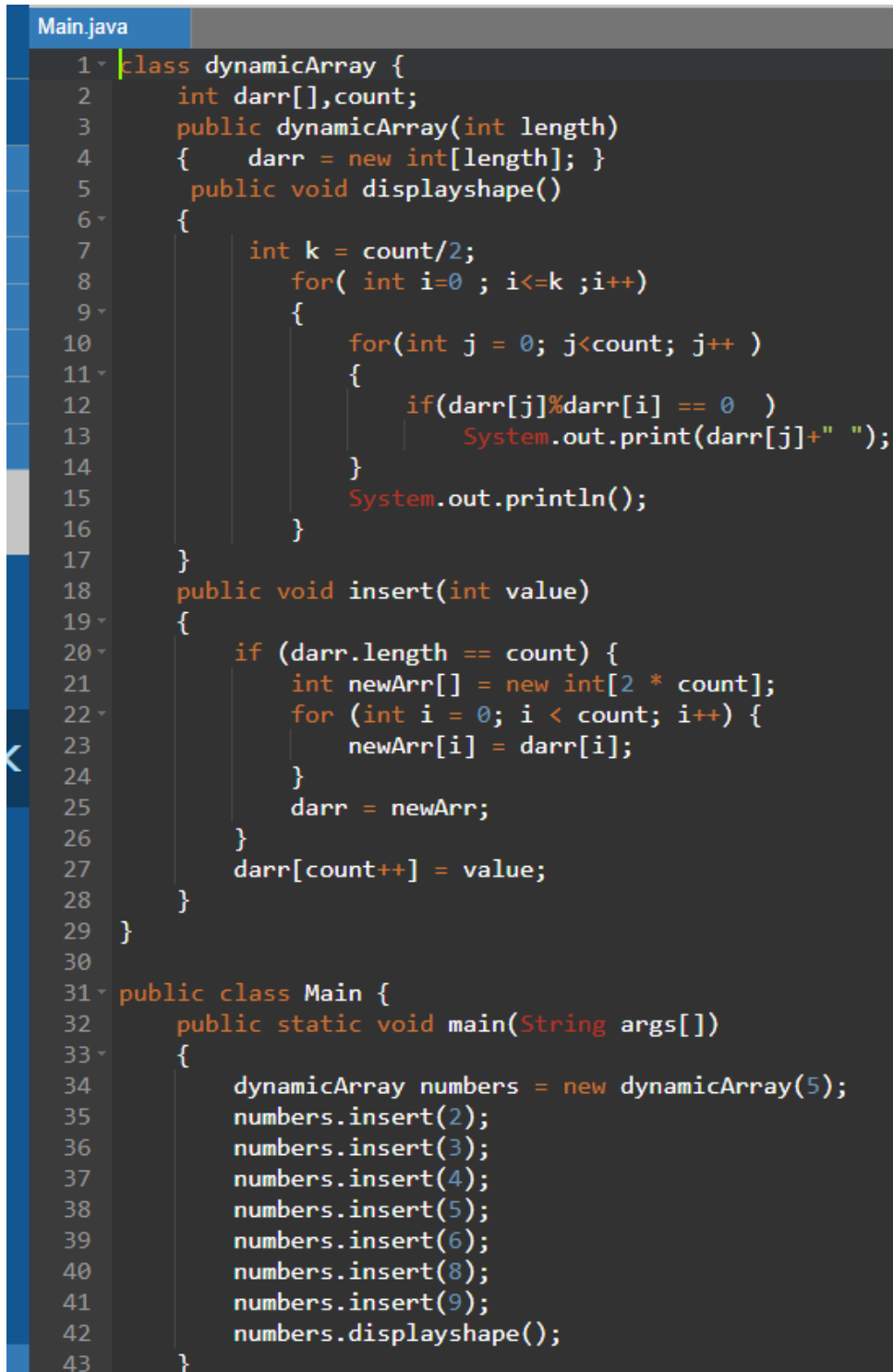
```

```

        numbers.displayshape();
    }
}

```

QUES4: PROGRAM AND OUTPUT



```

Main.java
1  class dynamicArray {
2      int darr[],count;
3      public dynamicArray(int length)
4      {   darr = new int[length]; }
5      public void displayshape()
6      {
7          int k = count/2;
8          for( int i=0 ; i<=k ;i++)
9          {
10             for(int j = 0; j<count; j++ )
11             {
12                 if(darr[j]%darr[i] == 0 )
13                     System.out.print(darr[j]+" ");
14             }
15             System.out.println();
16         }
17     }
18     public void insert(int value)
19     {
20         if (darr.length == count) {
21             int newArr[] = new int[2 * count];
22             for (int i = 0; i < count; i++) {
23                 newArr[i] = darr[i];
24             }
25             darr = newArr;
26         }
27         darr[count++] = value;
28     }
29 }
30
31 public class Main {
32     public static void main(String args[])
33     {
34         dynamicArray numbers = new dynamicArray(5);
35         numbers.insert(2);
36         numbers.insert(3);
37         numbers.insert(4);
38         numbers.insert(5);
39         numbers.insert(6);
40         numbers.insert(8);
41         numbers.insert(9);
42         numbers.displayshape();
43     }
}

```

QUES4: PROGRAM OUTPUT

```
main.java
1 class dynamicArray {
2     int darr[],count;
3     public dynamicArray(int length)
4     { darr = new int[length]; }
5     public void displayshape()
6     {
7         int k = count/2;
8         for( int i=0 ; i<=k ;i++)
9         {
10             for(int j = 0; j<count; j++ )
11             {
12                 if(darr[j]%darr[i] == 0 )
13                     System.out.print(darr[j]+" ");
14             }
15             System.out.println();
16         }
17     }
18     public void insert(int value)
19     {
20         if (darr.length == count) {
21             int newArr[] = new int[2 * count];
22             for (int i = 0; i < count; i++) {
23                 newArr[i] = darr[i];
24             }
25             darr = newArr;
26         }
27     }
28 }
```

2 4 6 8
3 6 9
4 8
5

...Program finished with exit code 0
Press ENTER to exit console.

Ques 5: Write a java program to print following output (reverse should not be used)

Input : Lets learn java together

Output : Letslearnjavatogether

SOL:

```
import java.util.*;

public class Main
{
    public static void main(String args[])
    {
        Scanner sc = new Scanner(System.in);

        String str = sc.nextLine();

        char a[] = str.toCharArray();

        StringBuffer s = new StringBuffer();

        for (int i = 0; i < a.length; i++) {
            if ((a[i] != ' ') && (a[i] != '\t'))
                s.append(a[i]);
        }

        System.out.println(s.toString());
    }
}
```

QUES5: PROGRAM AND OUTPUT

```
Main.java
1  import java.util.*;
2  public class Main
3  {
4      public static void main(String args[])
5      {
6          Scanner sc = new Scanner(System.in);
7          String str = sc.nextLine();
8          char a[] = str.toCharArray();
9          StringBuffer s = new StringBuffer();
10         for (int i = 0; i < a.length; i++) {
11             if ((a[i] != ' ') && (a[i] != '\t'))
12                 s.append(a[i]);
13         }
14         System.out.println(s.toString());
15     }
16 }
17
```

input

Lets learn java together
Letslearnjavatogether

...Program finished with exit code 0
Press ENTER to exit console.

Ques 6: Write a java program to traverse data in a excel.

SOL: Read.java

```
import java.io.File;
import java.io.FileInputStream;
import java.io.IOException;
import org.apache.poi.hssf.usermodel.HSSFSheet;
import org.apache.poi.hssf.usermodel.HSSFWorkbook;
import org.apache.poi.ss.usermodel.Cell;
import org.apache.poi.ss.usermodel.FormulaEvaluator;
import org.apache.poi.ss.usermodel.Row;

public class Read
{
    public static void main(String args[]) throws IOException
    {
        //obtaining input bytes from a file
        FileInputStream fis=new FileInputStream(new File("C:\\demo\\list.xls"));
        //creating workbook instance that refers to .xls file
        HSSFWorkbook wb=new HSSFWorkbook(fis);
        //creating a Sheet object to retrieve the object
        HSSFSheet sheet=wb.getSheetAt(0);
        //evaluating cell type
        FormulaEvaluator formulaEvaluator=wb.getCreationHelper().createFormulaEvaluator();
        for(Row row: sheet) //iteration over row using for each loop
        {
            for(Cell cell: row) //iteration over cell using for each loop
            {
                switch(formulaEvaluator.evaluateInCell(cell).getCellType())
                {
                    case Cell.CELL_TYPE_NUMERIC: //field that represents numeric cell type
                        //getting the value of the cell as a number
                        System.out.print(cell.getNumericCellValue()+"\t\t");
                    }
                }
            }
        }
```

```

break;

case Cell.CELL_TYPE_STRING: //field that represents string cell type

//getting the value of the cell as a string
System.out.print(cell.getStringCellValue()+ "\t\t");

break;

}

}

System.out.println();

}

}

}

```

QUES 6: PROGRAM

```

1 import java.io.File;
2 import java.io.FileInputStream;
3 import java.io.IOException;
4 import org.apache.poi.hssf.usermodel.HSSFSheet;
5 import org.apache.poi.hssf.usermodel.HSSFWorkbook;
6 import org.apache.poi.ss.usermodel.Cell;
7 import org.apache.poi.ss.usermodel.FormulaEvaluator;
8 import org.apache.poi.ss.usermodel.Row;
9 public class read
10 {
11 public static void main(String args[]) throws IOException
12 {
13 //obtaining input bytes from a file
14 FileInputStream fis=new FileInputStream(new File("C:\\demo\\list.xls"));
15 //creating workbook instance that refers to .xls file
16 HSSFWorkbook wb=new HSSFWorkbook(fis);
17 //creating a Sheet object to retrieve the object
18 HSSFSheet sheet=wb.getSheetAt(0);
19 //evaluating cell type
20 FormulaEvaluator formulaEvaluator=wb.getCreationHelper().createFormulaEvaluator();
21 for(Row row: sheet) //iteration over row using for each loop
22 {
23 for(Cell cell: row) //iteration over cell using for each loop
24 {
25 switch(formulaEvaluator.evaluateInCell(cell).getCellType())
26 {
27 case Cell.CELL_TYPE_NUMERIC: //field that represents numeric cell type
28 //getting the value of the cell as a number
29 System.out.print(cell.getNumericCellValue()+ "\t\t");
30 break;
31 case Cell.CELL_TYPE_STRING: //field that represents string cell type
32 //getting the value of the cell as a string
33 System.out.print(cell.getStringCellValue()+ "\t\t");
34 break;
35 }
36 }
37 System.out.println(); }}}

```

