Practical- Unit 1 [Assignment]

** runjava is a alias that I use to compile and run the program under a single command in terminal

** the code for the same is uploaded to the github https://github.com/avinashkkumar/java

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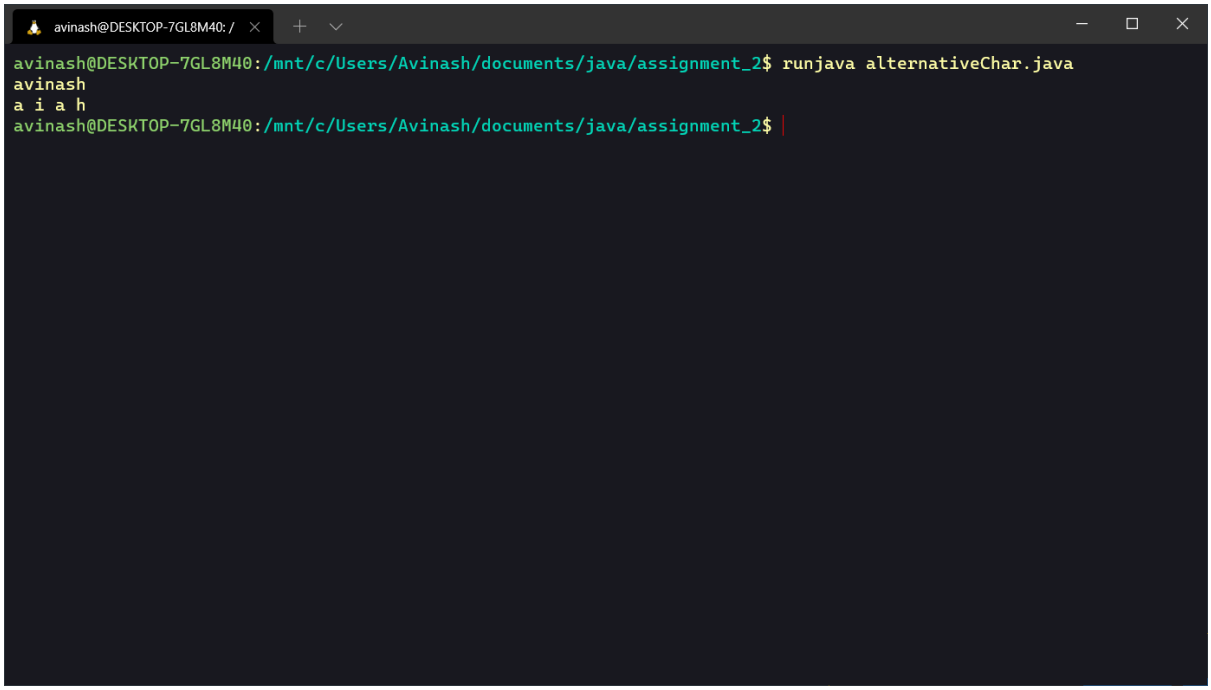
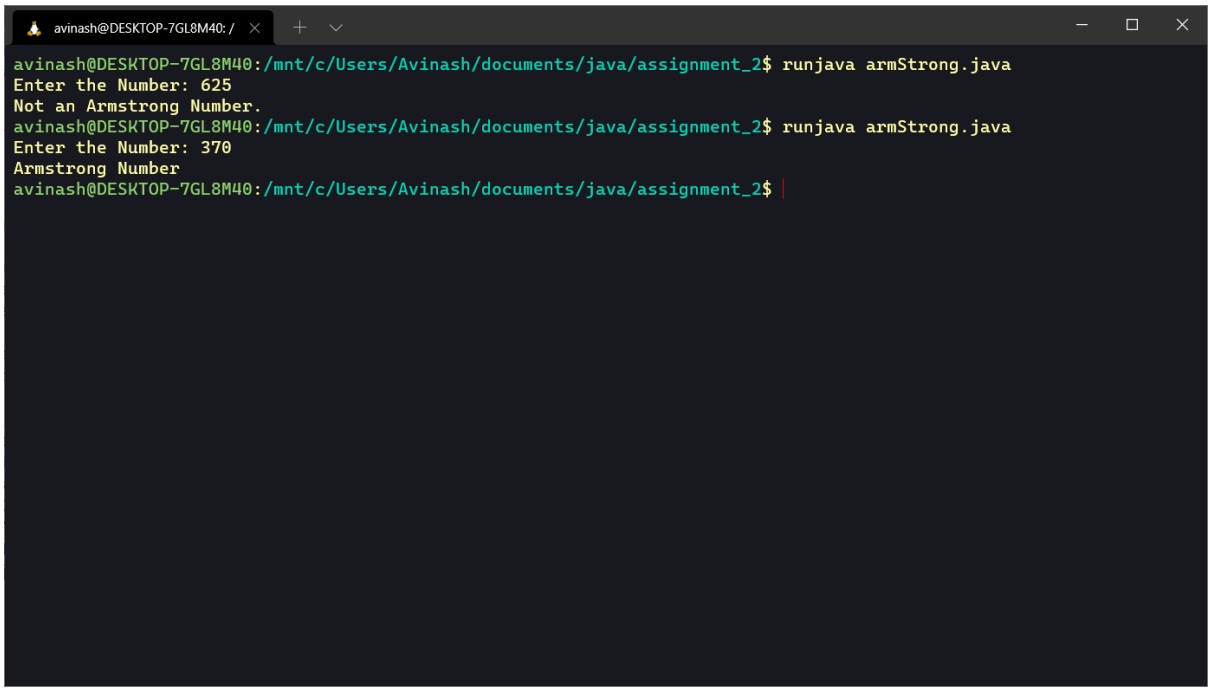
// 4A.Write a java program to display alternate character from a given string.

```
import java.util.Scanner;


public class alternativeChar {
   public static void main(String args[]){
      Scanner sc = new Scanner(System.in);
      String st = sc.nextLine();
      for( int i = 0 ; i < st.length() ; i ++ ){
         if(i%2 == 0){
            System.out.print(st.charAt(i));
         }
         else{
            System.out.print(" ");
         }
      }
      System.out.println();
      sc.close();
   }
}
```

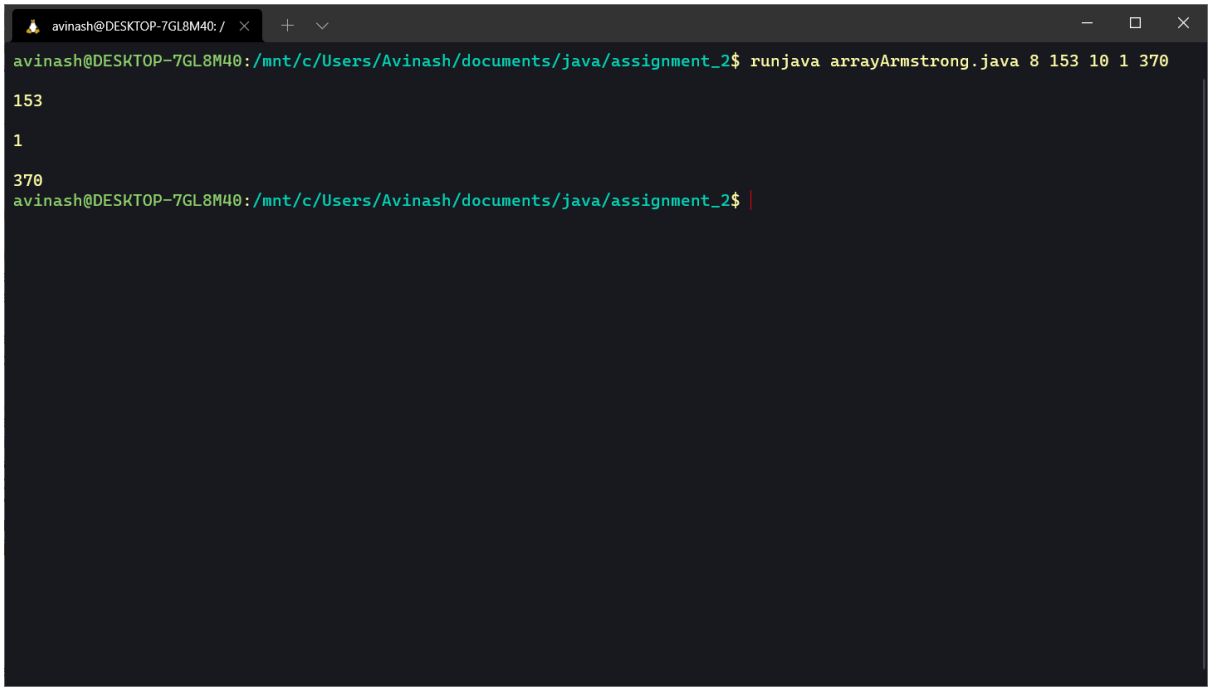


```
import java.util.Scanner;

public class armStrong {
    public static void main(String[] args) {
        int num, temp, totalDigit = 0, res = 0, rem, pow, i;
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the Number: ");
        num = sc.nextInt();
        temp = num;
        while (num > 0) {
            num = num / 10;
            totalDigit++;
        }
        num = temp;
        while (num > 0) {
            rem = num % 10;
            pow = 1;
```

```
        i = 0;
        while (i < totalDigit) {
            pow = pow * rem;
            i++;
        }
        res = res + pow;
        num = num / 10;
    }
    if (res == temp)
        System.out.println("Armstrong Number");
    else
        System.out.println("Not an Armstrong Number.");
    sc.close();
  }
}
```

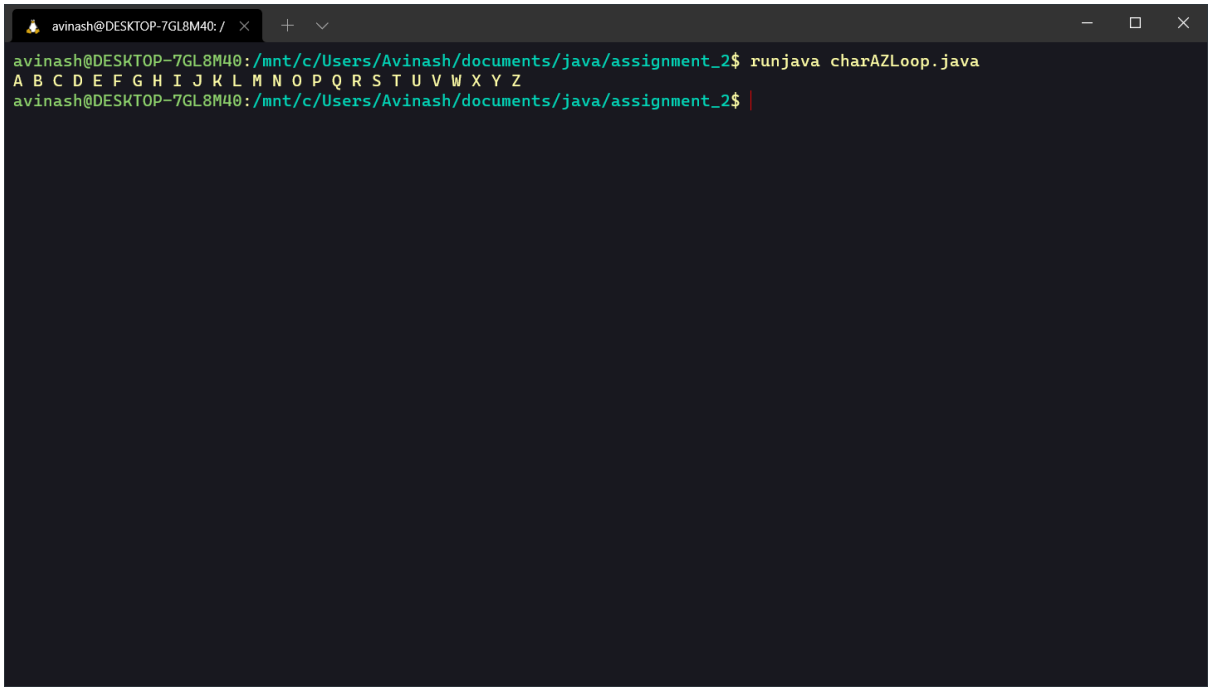


```
public class arrayArmstrong {
    public static void main(String arg[]) {
        int n, no, i = 0, sum = 0, r;
        int arm[] = new int[10];
        for (int j = 0; j < arg.length; j++) {
            n = Integer.parseInt(arg[j]);
            no = n;
            sum = 0;
            while (n > 0) {
                r = n % 10;
                n = n / 10;
                sum = sum + (r * r * r);
            }
            if (sum == no) {
                arm[i] = no;
                i++;
            }
        }
        for (int j = 0; j < i; j++) {
            System.out.println("\n" + arm[j]);
        }
    }
}
```



// 1A. Write a ‘java’ program to display characters from ‘A’ to ‘Z’. [15 M]

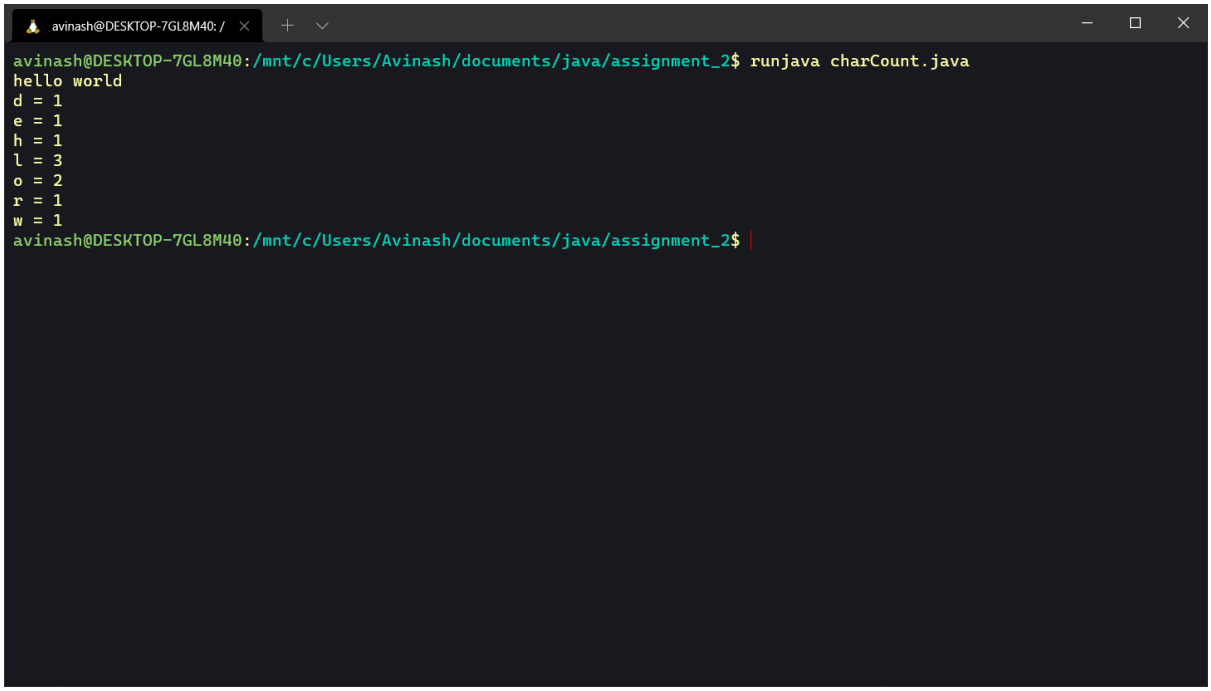
```
public class charAZLoop {
   public static void main(String args[]){
      for(char c = 'A' ; c <= 'Z' ; ++c){
         System.out.print(c + " ");
      }
      System.out.println();
   }
}
```



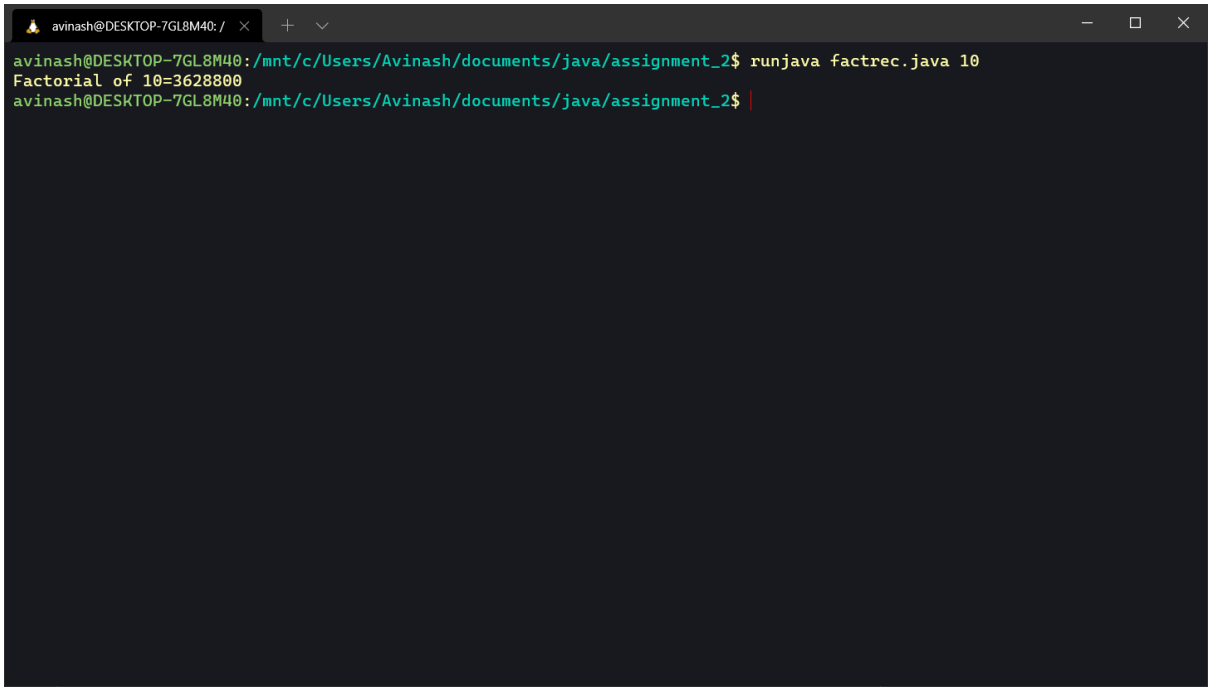
// Write a java program to count the frequency of each character in a given string.

```
import java.util.Scanner;


public class charCount {
    public static void main(String args[]){
        Scanner sc = new Scanner(System.in);
        String st = sc.nextLine();
        for(char ch = 'a' ; ch <= 'z' ; ch ++){
            int count = 0;
            for( int i = 0 ; i < st.length() ; i++){
                if(ch == st.charAt(i)){
                    count = count + 1;
                }
            }
            if( count > 0){
                System.out.println(ch + " = " + count);
            }
```

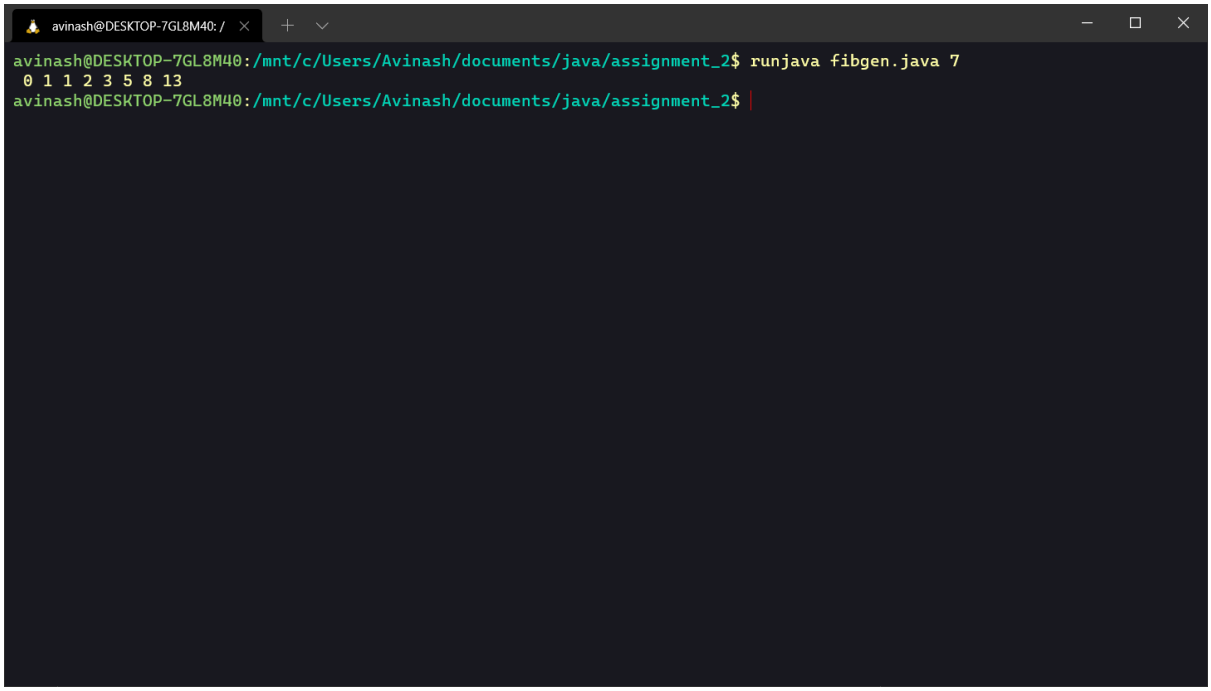
```
    }
    sc.close();
  }
}
```



```
public class factrec {
  public static void main(String arg[]) {
    int num = Integer.parseInt(arg[0]);
    long fact = funfact(num);
    System.out.println("Factorial of " + num + "=" + fact);
  }

  public static long funfact(int num) {
    if (num >= 1)
      return num * funfact(num - 1);
    else
      return 1;
  }
}
```



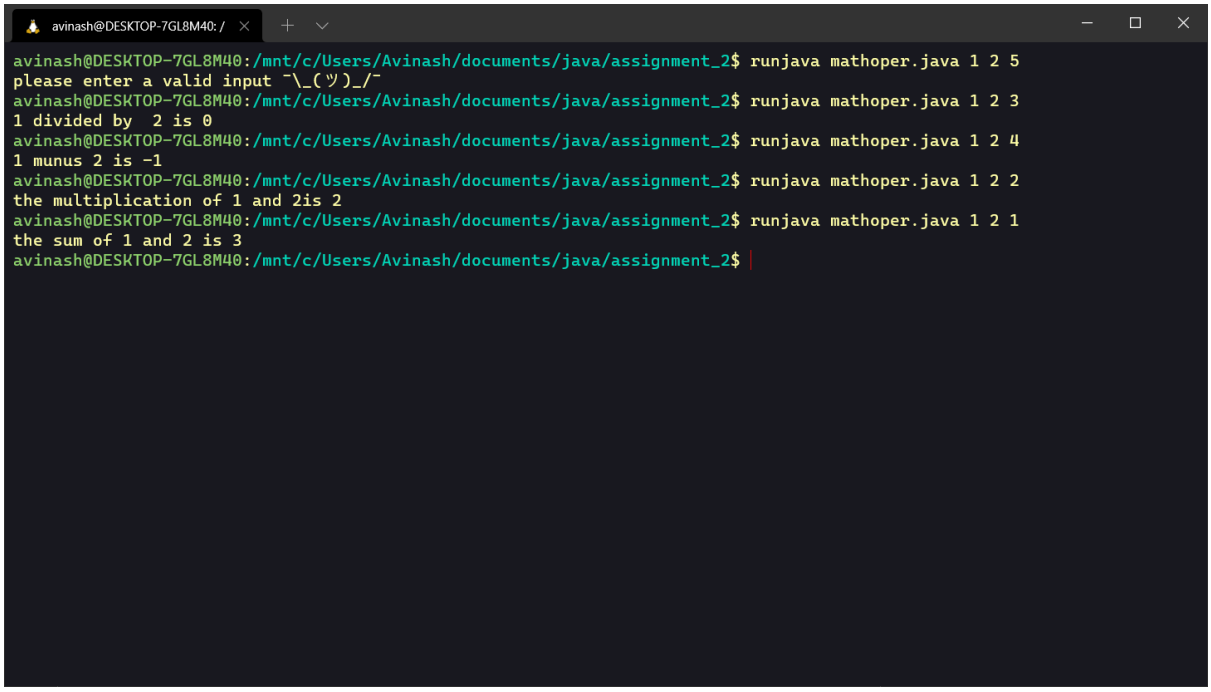
```
public class fibgen {
   public static void main(String args[]){
      int num  = Integer.parseInt(args[0]);
      gen(num);
   }
   public static void gen(int num){
      int i = 0 , j = 1;
      System.out.print(" " + i);
      for( int t = 0 ; t < num ; t++){
         int sum = i + j;
         i = j ;
         j = sum;
         System.out.print(" " + i);
      }
      System.out.println();
   }
}
```



// 8. write a java program to accept two numbers using command line arguement and claculate addition, substraction, multiplication and dividion

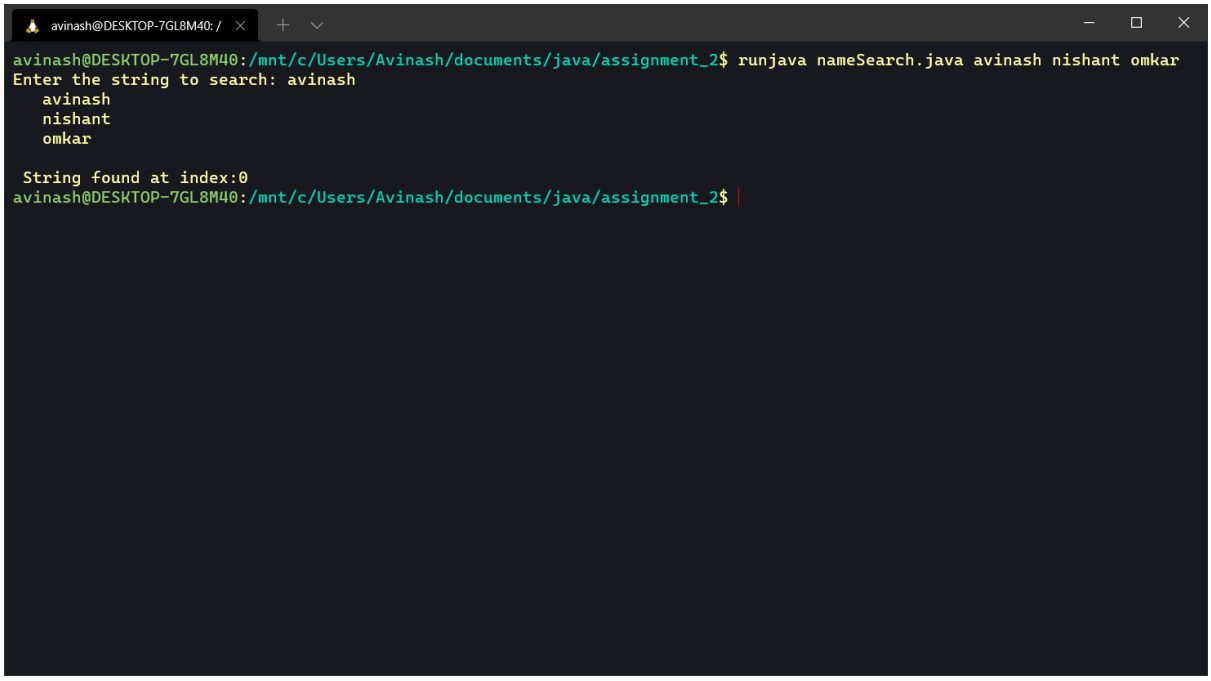
```
public class mathoper {
    public static void main(String args[]) {
        int a = Integer.parseInt(args[0]);
        int b = Integer.parseInt(args[1]);
        int c = Integer.parseInt(args[2]);
        int sum = a + b;
        int multi = a * b;
        int minus = a - b;
        int div = a / b;
        switch (c) {
            case 1:
                System.out.println("the sum of " + a + " and " + b + " is " + sum);
                break;
            case 2:
                System.out.println("the multiplication of " + a + " and " + b + "is " + multi);
```

```
            break;
        case 3:
            System.out.println(a + " divided by  " + b + " is " + div);
            break;
        case 4:
            System.out.println(a + " munus " + b + " is " + minus);
            break;
        default:
            System.out.println("please enter a valid input ¯\\_(ツ)_/¯");
            break;
      }
   }
}
```



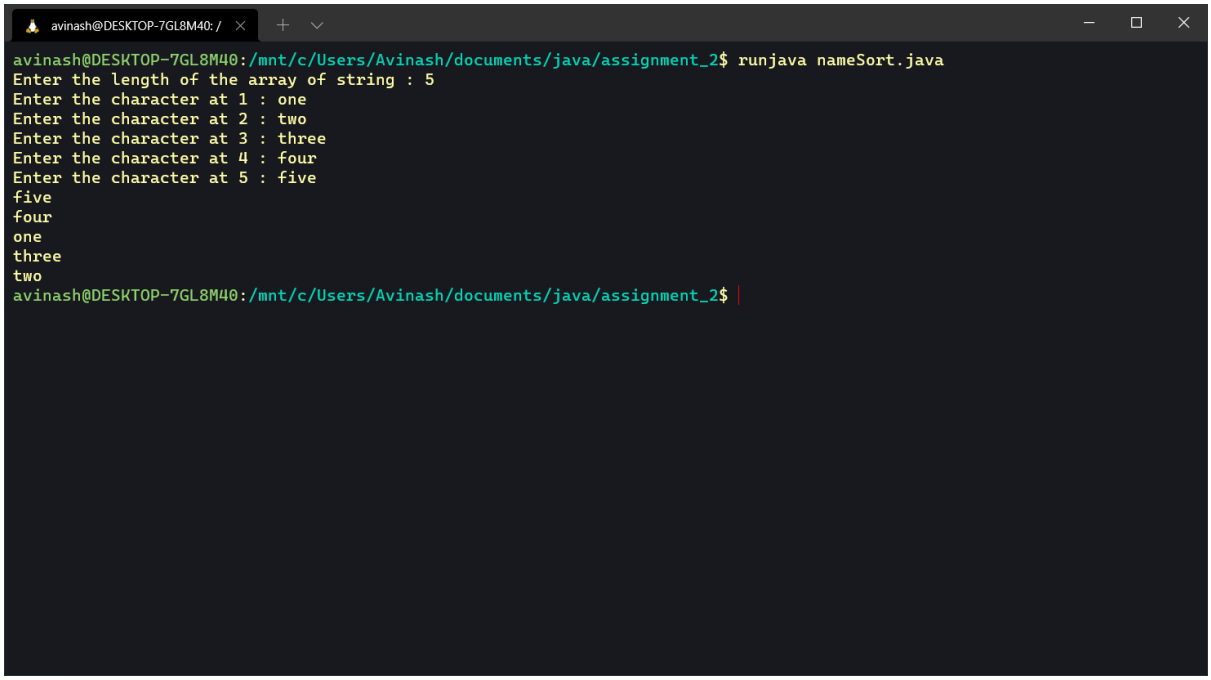
```
import java.util.Scanner;


public class nameSearch {
    public static void main(String[] args) {
        String s[] = args;
```

```
        int l = args.length;
        int i = 0, flag = 0;
        System.out.print("Enter the string to search: ");
        Scanner sc = new Scanner(System.in);
        String s2 = sc.nextLine();
        sc.close();
        for (i = 0; i < l; i++){
           System.out.println("   " + args[i]);
        }
        for (i = 0; i < l; i++) {
           if (s[i].compareTo(s2) == 0) {
              flag = 1;
              break;
           } else
              flag = 0;
        }
        if (flag == 1){
           System.out.println("\n String found at index:" + i);
        }
        else{
           System.out.println("\n Matching ```" + s2 + "``` String NOT found");
        }
     }
}
```

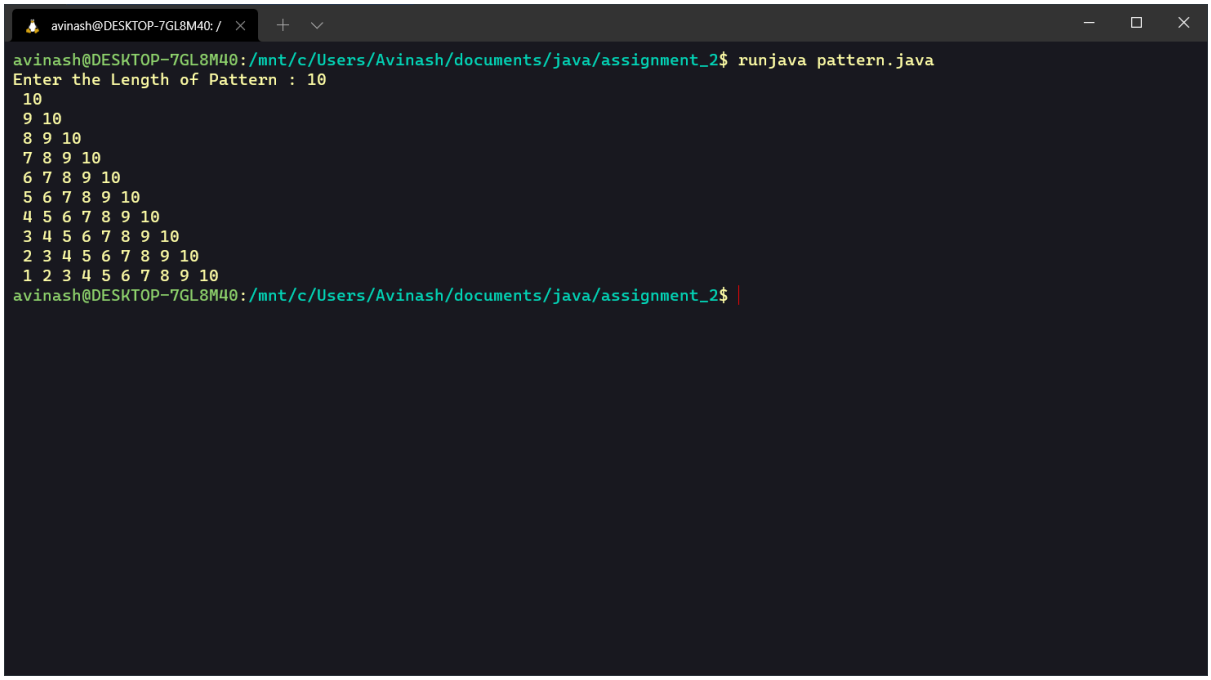



```
import java.util.Scanner;
import java.util.Arrays;
 class nameSort {
   public static void main(String args[]){
      Scanner sc = new Scanner(System.in);
      System.out.print("Enter the length of the array of string : ");
      int len = sc.nextInt();
      String st[] = new String[len] ;
      for( int i = 0 ; i < len ; i++){
         System.out.print("Enter the character at " + (i +1) + " : ");
         st[i] = sc.next();
      }
      sc.close();
      Arrays.sort(st);
      for( int i = 0 ; i < len ; i++ ){
         System.out.println(st[i]);
      }

   }
```

}



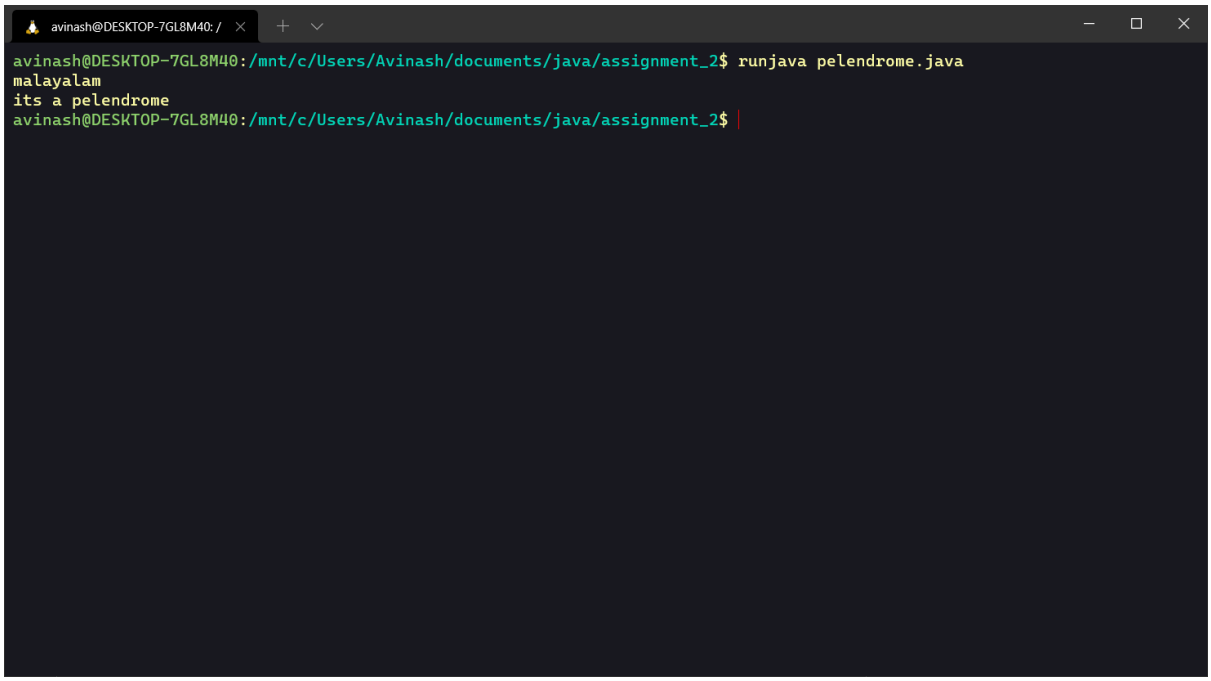
```
import java.util.Scanner;
 class pattern {
    public static void main(String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the Length of Pattern : ");
        int l = sc.nextInt();
        sc.close();
        for( int j = l ; j >= 1 ; j--){
            for( int i = j ; i <= l ; i++){
                System.out.print(" " + i);
            }
            System.out.println();
        }
    }
}
```



// write a java program to check whether given string is palindrome or not

```
import java.util.*;
public class pelendrome {
   public static void main(String arge[]){
      Scanner sc = new Scanner(System.in);
      String str = sc.nextLine();

      int i = 0 ;
      int j = str.length()-1;
      boolean b = true;
      while ( j > i ) {
         if( str.charAt(i) != str.charAt(j)){
            b = false;
         }
      i++;
      j--;
      }
```

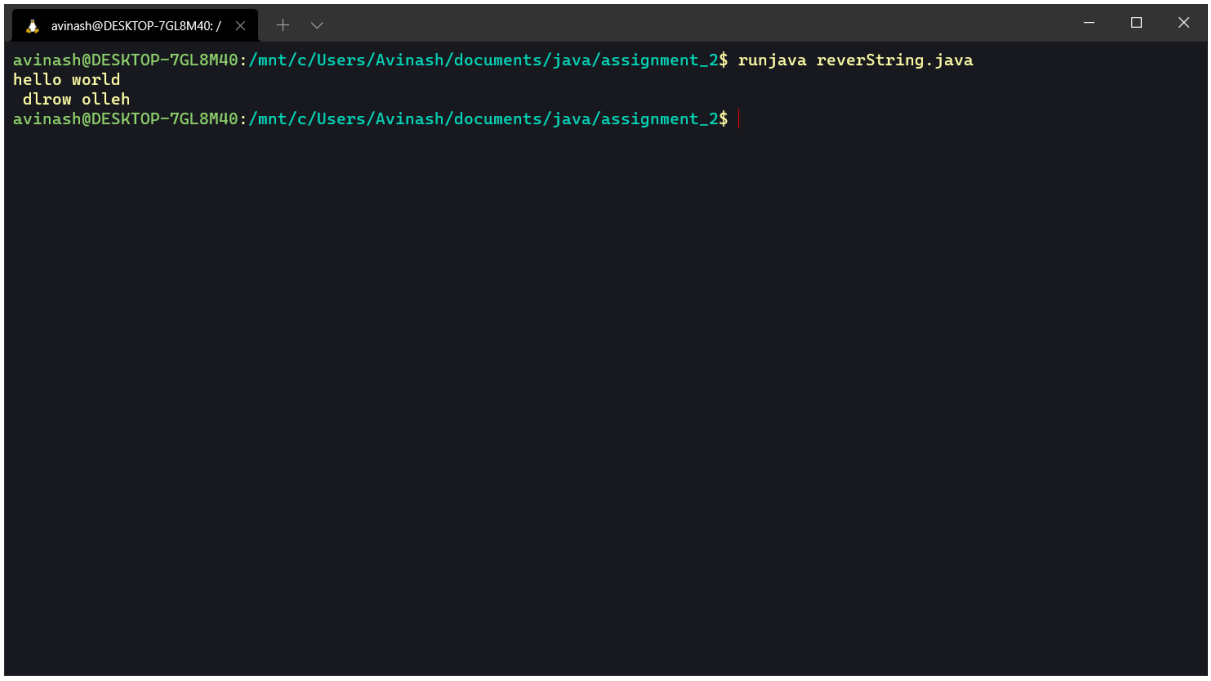
```
        if(b == true){
            System.out.println("its a pelendrome");
            }
        else{
            System.out.println("its not a pelendrome");
        }
        sc.close();
    }
}
```



// Write a java program to display each String in reverse order from a String array.

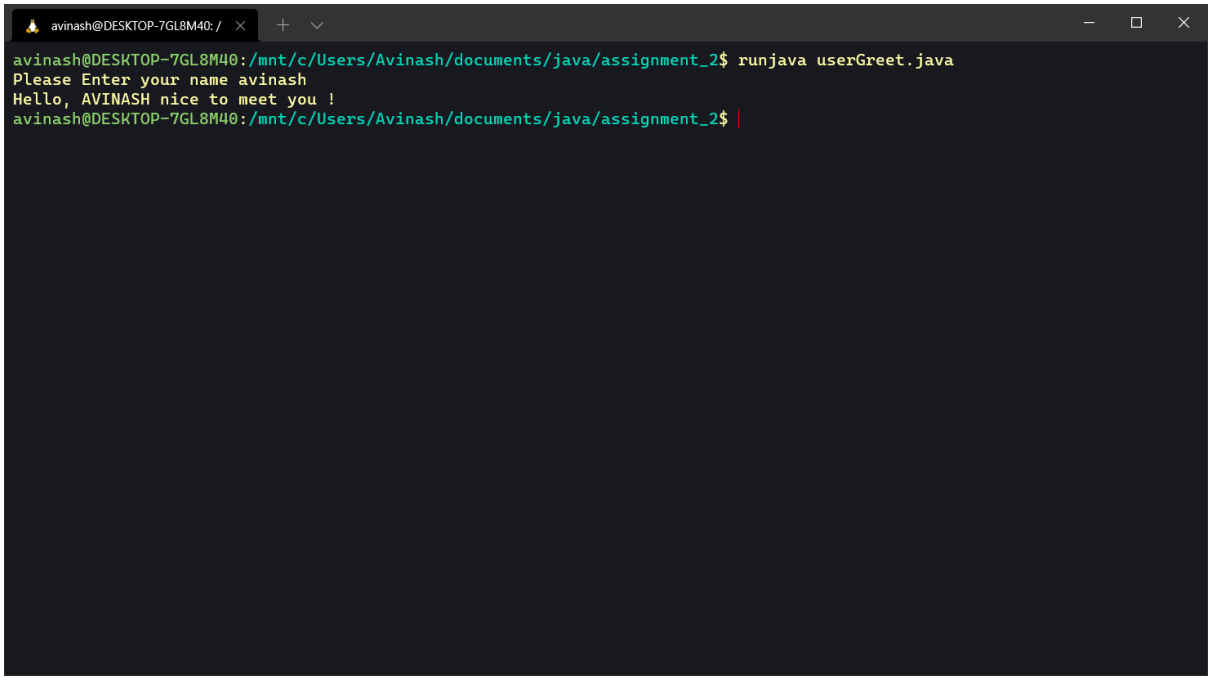
```
import java.util.Scanner;
public class reverString {
    public static void main(String args[]){
        Scanner sc = new Scanner(System.in);
        String st = sc.nextLine();
        String rstring = new String();
        for(int i = st.length()-1 ; i >= 0 ; i--){
```

```
            rstring = rstring + st.charAt(i);
        }
        System.out.println(rstring);
        sc.close();
    }
}
```



```
// Write a java program that asks the user name, and then greets the user by name.
// Before outputting the user's name, convert it to upper case letters. For
// example, if the user's name is Raj, then the program should respond
// "Hello, RAJ, nice to meet you!".

import java.util.Scanner;
public class userGreet {
    public static void main(String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.print("Please Enter your name ");
        String st = sc.nextLine();
        st = st.toUpperCase();
```

```
        System.out.println("Hello, " + st + " nice to meet you !" );
        sc.close();
    }
}
```



// 2A. Write a java program to display all the vowels from a given string.

```
import java.util.Scanner;
public class vovelString {
    public static void main(String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a string to get the ");
        String st = sc.nextLine();

        for( int i = 0 ; i < st.length() ; i++ ){
            if( st.charAt(i) == 'a' || st.charAt(i) == 'e' || st.charAt(i) == 'i' || st.charAt(i) == 'o' || st.charAt(i) == 'u' || st.charAt(i) == 'A' || st.charAt(i) == 'E' || st.charAt(i) == 'I' || st.charAt(i) == 'O' || st.charAt(i) == 'U'){
                System.out.print(st.charAt(i));
```

```
            }
        else{
            System.out.print(" ");
            continue;
        }
    }
    System.out.println();
    sc.close();
  }
}
```