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Department:ECE-A

JAVA PROGRAMMING

ASSIGNMENT 2:

PROGRAM:

```
import java.lang.*;
import java.io.*;
import java.io.BufferedReader;
import java.io.FileReader;
import java.io.IOException;
import java.util.*;
public class Matrix
{
public static void main(String arg[]) throws IOException,FileNotFoundException{
   int i,j,b,k;
      BufferedReader br=new BufferedReader(new FileReader("read.txt"));
            System.out.println("ENTER THE COVARIENCE MATRIX");
      int Covarience [][];
     Covarience =new int[3][3];
      for(i=0;i<3;i++){
         for(j=0;j<3;j++){
            Covarience[i][j]=Integer.parseInt(br.readLine());
         }
```

```
        }



        int standardDeviation[][]={{0,0,0},{0,0,0},{0,0,0}};
        int temp[][]={{0,0,0},{0,0,0},{0,0,0}};
        int corellation[][]={{0,0,0},{0,0,0},{0,0,0}};
            for(i=0;i<3;i++){
                    for(j=0;j<3;j++){
                            if(i==j){
                                    b=(int)(Math.sqrt(Covarience[i][j]));
                                    standardDeviation  [i][j]=Math.round((float)1/b);
                            }
                            else{
                                    standardDeviation  [i][j]=0;
                            }
                        }
                    }
System.out.println("STANDARD  DEVIATION");
            for(i=0;i<3;i++){
                    for(j=0;j<3;j++){
                                            System.out.print("  "+standardDeviation  [i][j]);
                    }
                    System.out.print("\n");
            }
```

```
    for(i=0;i<3;i++){
          for(j=0;j<3;j++){
                temp[i][j]=0;
                for(k=0;k<3;k++){
                temp[i][j]=temp[i][j]+Covarience[i][k]*standardDeviation[k][j];
                }
            }
          }

    for(i=0;i<3;i++){
          for(j=0;j<3;j++){
                corellation  [i][j]=0;
                for(k=0;k<3;k++){
                corellation  [i][j]=corellation[i][j]+temp[i][k]*standardDeviation[k][j];
                }
          //        System.out.println(corellation[i][j]);
            }



          }
System.out.println("CORRELATION  MATRIX");
for(i=0;i<3;i++){
                for(j=0;j<3;j++){
                      System.out.print("  "+ corellation  [i][j]);
```

```
                }
                        System.out.print("\n")
}
}
 }
```

OUTPUT: