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d)

e) The number of companies with no faults is higher than expected. Although the probability of 1 and 2 errors on an annual basis is less than expected, 3 and 4 are higher than expected. Expected and actual numbers are not too far apart.

f) I think that it is safe to travel on the road, as no error is less than the actual error rate.

g)

a)

void NumberOfDefect(int Arr[20][16],double Ptr[5][2]){

    for(int i=0; i<5; i++){

        Ptr[i][0]=0.0;  // fill with zero

    }

    for(int i=0; i<20; i++){

        for(int j=2; j<16; j++){

            if(Arr[i][j]==0){ //number of zero

                Ptr[0][0]++;

            }

            else if(Arr[i][j]==1){ // number of one

                Ptr[1][0]++;

            }

            else if(Arr[i][j]==2){ // number of two

                Ptr[2][0]++;

            }

            else if(Arr[i][j]==3){ // number of three

                Ptr[3][0]++;

            }

            else if(Arr[i][j]==4){ //number of four

                Ptr[4][0]++;

            }

        }

    }

    Poisson\_Distribution(MeanValue(Ptr),Ptr);

}

b)

double MeanValue(double Ptr[5][2]){

    double result;

    double Mnvl=0.0;

    for(int i=0; i<5; i++){

        Mnvl+=Ptr[i][0]\*i; //

    }

    result=Mnvl/280;

    cout<<"Lambda= "<<result<<endl;

    return result;

}

c)

void Poisson\_Distribution(double mean, double Ptr[5][2]){

    int factorial=1;

    for(int i=0; i<5; i++){

        for(int j=1; j<=i; ++j){

            factorial \*=j;

        }

        Ptr[i][1]= Ptr[i][0]-(pow(mean,i)\*exp(-mean))/(double)factorial;

        factorial=1;

    }

}

d)

void WriteInFile(double Ptr[5][2]){

    ofstream file;

    file.open("graph.csv");

    for(int i=1; i<5; i++){

        file<<Ptr[i][0]<<","<<Ptr[i][1]<<endl;

    }

    file.close();

}