

**TUGAS KECIL 1 IF2211 STRATEGI ALGORITMA
SEMESTER II TAHUN 2022/2023**

PROGRAM 24 SOLVER DENGAN ALGORITMA BRUTE FORCE

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**PROGRAM STUDI TEKNIK INFORMATIKA
SEKOLAH TEKNIK ELEKTRO DAN INFORMATIKA
INSTITUT TEKNOLOGI BANDUNG**

1. Algoritma *Brute Force*

Strategi brute force adalah suatu strategi algoritma yang memecahkan masalah dengan cara mencoba seluruh kemungkinan yang terjadi sehingga banyak sekali hal yang bisa dipecahkan oleh strategi algoritma ini dan mungkin bisa menyelesaikan seluruh masalah algoritma yang ada di dunia ini dan ada pula permasalahan yang hanya bisa diselesaikan oleh algoritma brute force saja.

Walaupun terlihat sangat bagus karena strategi ini sangat memakan banyak waktu karena cara memecahkan masalahnya yang menggunakan seluruh kemungkinan yang ada seperti contohnya jika kita ingin memecahkan password dengan 64 text dengan menggunakan algoritma brute force jika diasumsikan password tersebut dari seluruh angka dan huruf maka ada $4,0119919145476304800650533877024e+99$ kemungkinan yang harus kita cari dan sangat amat membutuhkan waktu yang sangat lama.

2. Source Code dengan Bahasa Java

a. Tools.java

```
import java.io.FileWriter;
import java.io.IOException;
import java.util.Random;
import java.util.Scanner;

8 usages  fchrgrib
public class Tools {
    9 usages
    private static final Scanner scan = new Scanner(System.in);
    3 usages  fchrgrib
    public static String[] ifStarOrSlash(String[] nums){
        for(int i = 0; i<nums.length; i++){
            if(nums[i].equals("*")){
                nums[i+1]=String.valueOf( d: Double.parseDouble(nums[i-1])*Double.parseDouble(nums[i+1]));
                nums[i-1]="0";
                nums[i]="+";
            }else if(nums[i].equals("/")){
                nums[i+1]=String.valueOf( d: Double.parseDouble(nums[i-1])/Double.parseDouble(nums[i+1]));
                nums[i-1]="0";
                nums[i]="+";
            }
        }
        return nums;
    }
    3 usages  fchrgrib
    public static double sumAll(String[] numsum){
        double sum = Double.parseDouble(numsum[0]);
        for(int i=0; i<numsum.length; i++){
            if(numsum[i].equals("+")){
                sum+=Double.parseDouble(numsum[i+1]);
            }else if(numsum[i].equals("-")){
                sum-=Double.parseDouble(numsum[i+1]);
            }
        }
    }
}
```

1 usage fchrgrib

```
public static boolean validationSave(){
    System.out.println("Apakah anda ingin menyimpan data tersebut?\n1.Ya\n2.Tidak");
    System.out.print("Pilih:");
    int pilih = scan.nextInt();
    while (pilih<1&&pilih>2){
        System.out.print("masukkan input yang valid: ");
        pilih= scan.nextInt();
    }
    return pilih==1;
}
```

4 usages fchrgrib

```
private static boolean validationNumber(int num1,int num2,int num3,int num4){

    int[] num = {num1,num2,num3,num4};
    for (int i=0;i<4;i++){
        if(num[i]>13||num[i]<1){
            return false;
        }
    }
    for(int i=0;i<4;i++){
        for (int j=0;j<4;j++){
            if(i!=j){
                if((num[i]==num[j])){
                    return false;
                }
            }
        }
    }

    return true;
}
```

```

1 usage  fchrgrib
public static boolean isKeyboard(){
    System.out.println("Pilih Cara Bermain:\n1. Input dengan keyboard\n2. Dipilih angka random");
    System.out.print("Pilih: ");
    int pilih = scan.nextInt();
    while (pilih<1&&pilih>2){
        System.out.println("masukkan input key yang valid:");
        pilih = scan.nextInt();
    }
    return pilih==1;
}

1 usage  fchrgrib
public static boolean validationExit(){
    System.out.println("Apakah anda ingin melanjutkan permainan?\n1.Ya\n2.Tidak");
    System.out.print("Pilih: ");
    int pilih = scan.nextInt();
    while (pilih<1&&pilih>2){
        System.out.println("masukkan input yang valid:");
        pilih = scan.nextInt();
    }
    return pilih==2;
}
}

```

```

1 usage  fchrgrib
public static void writeResults(String res, String card) throws IOException {
    System.out.println("masukkan lokasi penyimpanan dan format nama file:\ncontoh cara menyimpan file : ./test/test.txt");
    String path = scan.next();
    FileWriter writeResult = new FileWriter(path);
    writeResult.write( str: "Kartu yang dipilih:\n"+card+"\n\n");
    if(res!="") {
        String[] result = res.split( regex: "\n");
        writeResult.write( str: result.length+" Solutions found\n\n");
        if (result.length != 0) {
            for (int i = 0; i < result.length; i++) {
                writeResult.write( str: result[i] + "\n");
            }
        }
        System.out.println("Data Berhasil Disimpan\n\n");
    }else {
        writeResult.write( str: "Tidak ada solusi\n\n");
        System.out.println("Data Berhasil Disimpan\n\n");
    }
    writeResult.close();
}
}

```

```

private static int cardToNum(String card){
    if(card.equals("A")){
        return 1;
    }
    if(card.equals("J")){
        return 11;
    }
    if(card.equals("Q")){
        return 12;
    }
    if(card.equals("K")){
        return 13;
    }
    return Integer.valueOf(card);
}

```

2 usages fchrgrib

```

private static String calculateResult(String result, int[] num) {

    for(int i=0;i<4;i++){
        for(int j=0;j<4;j++){
            for(int k=0;k<4;k++){
                for(int l=0;l<4;l++){

                    if(i!=j&&i!=k&&i!=l&&j!=k&&j!=l&&l!=k){
                        if(Results.results(num[i],num[j],num[k],num[l])!=""){
                            result+=Results.results(num[i],num[j],num[k],num[l]);
                        }
                    }
                }
            }
        }
    }
}

```

5 usages fchrgrib

```

private static String getRandom(String[] array) {
    int rnd = new Random().nextInt(array.length);
    return array[rnd];
}

```

```
public static String[] ifInputKeyboardOrRandom(String result,boolean isKeyboard){
    String[] resultss;
    if(isKeyboard){

        String[] card = new String[4];
        int[] num = new int[4];

        tutorCard();
        System.out.println("Masukkan kartu: ");
        for(int i=0;i<4;i++){
            card[i]=scan.next();
        }

        for(int i=0;i<4;i++){
            num[i] = cardToNum(card[i]);
        }

        boolean isNumValid = validationNumber(num[0],num[1],num[2],num[3]);

        while (isNumValid==false){
            System.out.println("kartu sama atau melebihi batas masukkan kartu yang sesuai format: ");
            for(int i=0;i<4;i++){
                card[i]=scan.next();
            }
            for(int i=0;i<4;i++){
                num[i] = cardToNum(card[i]);
            }
            isNumValid = validationNumber(num[0],num[1],num[2],num[3]);
        }
        System.out.println("\n\nKartu yang dipilih:");
        for(int i=0;i<4;i++){
```

```

        resultss = new String[]{(card[0]+" "+card[1]+" "+card[2]+" "+card[3]+" "), calculateResult(result, num)};
        return resultss;
    }else {

        String[] cards = {"A","2","3","4","5","6","7","8","9","10","J","Q","K"};
        int[] num = new int[4];

        String[] card = {getRandom(cards),getRandom(cards),getRandom(cards),getRandom(cards)};

        for(int i=0;i<4;i++){
            num[i] = cardToNum(card[i]);
        }
        boolean isNumValid = validationNumber(num[0],num[1],num[2],num[3]);
        while (!isNumValid){
            for(int i=0;i<4;i++){
                card[i]=getRandom(cards);
            }
            for(int i=0;i<4;i++){
                num[i] = cardToNum(card[i]);
            }
            isNumValid = validationNumber(num[0],num[1],num[2],num[3]);
        }

        System.out.println("\n\nKartu yang dipilih:");
        for(int i=0;i<4;i++){
            System.out.print(card[i]+" ");
        }
        System.out.println("\n");
        resultss = new String[]{(card[0]+" "+card[1]+" "+card[2]+" "+card[3]+" "), calculateResult(result, num)};
        return resultss;
    }
}

```

1 usage fchrgrib

```

private static void tutorCard(){
    System.out.println("Contoh cara memasukkan kartu:\n A J 7 8\natau\nA\nJ\n7\n8\n");
}

```


b. SplashScreen.java

```

1 usage: fchgrnb
public class Splashscreen {
    1 usage: fchgrnb
    public static void splashscreen(){

        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP\n");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP\n");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP\n");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP\n");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP");
        System.out.println("EMSPENSP\n");
    }
}

```

c. Priority.java

```
3 usages  fchrgrib
public class Priority {
    6 usages
    private static final Tools tools = new Tools();

    20 usages  fchrgrib
    public static double one(String num1,String sym,String num2){
        String[] merge = {num1,sym,num2};
        return tools.sumAll(tools.ifStarOrSlash(merge));
    }

    5 usages  fchrgrib
    public static double two(String num1,String sym1,String num2,String sym2,String num3){
        String[] merge = {num1,sym1,num2,sym2,num3};
        return tools.sumAll(tools.ifStarOrSlash(merge));
    }

    1 usage  fchrgrib
    public static double three(String num1,String sym1,String num2,String sym2,String num3,String sym3,String num4){
        String[] merge = {num1,sym1,num2,sym2,num3,sym3,num4};
        return tools.sumAll(tools.ifStarOrSlash(merge));
    }
}
```

d. Main.java

```
import java.io.IOException;
import java.util.Scanner;

3 usages  fchrgrib
public class Main {
    no usages
    private static final Scanner scan = new Scanner(System.in);
    no usages  fchrgrib
    public static void main(String[] args) throws IOException {

        Splashscreen.splashscreen();
        boolean isEnd = false;
        while (!isEnd){
            String res = "";
            boolean isBoard = Tools.isKeyboard();
            String[] result = Tools.ifInputKeyboardOrRandom(res,isBoard);
            if(result[1]=="){
                System.out.println("Tidak ada solusi\n\n");
            }else {
                String [] cobs = result[1].split( regex: "\n");
                System.out.println(cobs.length+" Solutions found\n\n");
            }
            System.out.println(result[1]);
            boolean save= Tools.validationSave();
            if(save) Tools.writeResults(result[1],result[0]);
            isEnd = Tools.validationExit();
        }
    }
}
```

3. Screenshot I/O Program

a. I/O with keyboard1

```
Run: Main
12*(1+(13-11))
(12+1)*(13-11)
12+(13-(1+11))
12*(13/1-11)
12*((13/1)-11)
12*(13*1-11)
12*((13*1)-11)
12*(13-11)/1
(12+(13-11))/1
12*((13-11)/1)
12+(13-(11/1))
12*(13-11)*1
(12+(13-11))*1
12*((13-11)*1)
12*(13-(11+1))
(13-(1*11))*12
(13/1-11)*12
((13/1)-11)*12
(13+1-11)*12
((13+1)-11)*12
(13-11)/(1/12)
(13-11)/1*12
((13-11)/1)*12
(13-(11/1))*12
(13-11)*1*12
((13-11)*1)*12
(13-(11*1))*12
(13-11)*(1+12)
(13-11)*12/1
((13-11)*12)/1
(13-11)*(12/1)
(13-11)*12*1

Build completed successfully in 1 sec, 309 ms (3 minutes ago)

C:\jdk-19.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2022.3.1\lib\idea_rt.jar=56013:C:\Program Files\JetBrains\IntelliJ IDEA 2022.3.1\bin" -Dfile.encoding=UTF-8
=====SELAMAT DATANG DI PERMAINAN 24 SOLVE=====
Pilih Cara Bermain:
1. Input dengan keyboard
2. Dipilih angka random
Pilih: 1
Masukkan kartu:
1 2 3 4

Kartu yang dipilih:
A J Q K

48 Solutions found

1*12*(13-11)
1*(12*(13-11))
(1*12)*(13-11)
1*(13-11)*12
(1*13-11)*12
((1+13)-11)*12
(1+(13-11))*12
1*((13-11)*12)
12/(1/(13-11))
12/1*(13-11)
(12/1)*(13-11)
12+1*(13-11)
12*(1+13-11)
12*((1+13)-11)
12*(1+(13-11))
(12+1)*(13-11)
```

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - Main.java
Tucil1_13521031 src Main main
Project
Run: Main
(13+1-11)*12
((13+1)-11)*12
(13-11)/(1/12)
(13-11)/1*12
((13-11)/1)*12
(13-(11/1))*12
(13-11)*1*12
((13-11)+1)*12
(13-(11+1))*12
(13-11)*(1+12)
(13-11)*12/1
((13-11)+12)/1
(13-11)+(12/1)
(13-11)+12+1
((13-11)+12)*1
(13-11)+(12+1)

Apakah anda ingin menyimpan data tersebut?
1.Ya
2.Tidak
Pilih: 1
masukkan lokasi penyimpanan dan format nama file:
contoh jika menggunakan IntelliJ : ../test/test.txt
contoh jika menggunakan Vscode : ../test/test.txt
../test/inputKeyboard1
Data Berhasil Disimpan

Apakah anda ingin melanjutkan permainan?
1.Ya
2.Tidak
Pilih: 1

Build completed successfully in 1 sec, 309 ms (3 minutes ago) 32:15 LF UTF-8 4 spaces master
```

b. I/O with keyboard2

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - inputKeyboard2.txt
Tucil1_13521031 test inputKeyboard2.txt
Project
Run: Main
C:\jdk-19.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2022.3.1\lib\idea_rt.jar=65429:C:\Program Files\JetBrains\IntelliJ IDEA 2022.3.1\bin" -Dfile.encoding=UTF-8
=====SELAMAT DATANG DI PERMAINAN 24 SOLVE=====
Pilih Cara Bermain:
1. Input dengan keyboard
2. Dipilih angka random
Pilih: 1
Masukkan kartu:
2 7 10 9
kartu sama atau melebihi batas masukkan kartu yang sesuai format:
1 8 9 9
kartu sama atau melebihi batas masukkan kartu yang sesuai format:
1 7 10 9

Kartu yang dipilih:
2 7 10 9

226 Solutions found

2*(10-7+9)
2*((10-7)+9)
2*(10-(7-9))
(2+10)*(9-7)
2*(10+9-7)
2*((10+9)-7)
2*(10+(9-7))
2*(9-7+10)
2*((9-7)+10)
2*(9-(7-10))
2*(9+10-7)
2*((9+10)-7)

Typo: In word 'Kartu' 26:1 LF UTF-8 4 spaces master
```

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - inputKeyboard2.txt
Tucil1_13521031 test inputKeyboard2.txt
Project Run Main
7-2+10+9
(7-2)+10+9
7-2+(10+9)
(7-2+10)+9
((7-2)+10)+9
(7-2)+(10+9)
7-(2-10)+9
(7-(2-10))+9
7-(2-(10+9))
7-(2-10-9)
7-((2-10)-9)
7-2+9+10
(7-2)+9+10
7-2+(9+10)
(7-2+9)+10
((7-2)+9)+10
(7-2)+(9+10)
7-(2-9)+10
(7-(2-9))+10
7-(2-(9+10))
7-(2-9-10)
7-((2-9)-10)
7+10-2+9
(7+10)-2+9
7+(10-2)+9
(7+10-2)+9
((7+10)-2)+9
(7+(10-2))+9
7+((10-2)+9)
7+10-(2-9)
7+(10-(2-9))
Git Run TODO Problems Terminal Services Profiler Build
Type: In word 'Kartu' 32:13 LF UTF-8 4 spaces master
```

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - inputKeyboard2.txt
Tucil1_13521031 test inputKeyboard2.txt
Project Run Main
10-2+7+9
(10-2)+7+9
10-2+(7+9)
(10-2+7)+9
((10-2)+7)+9
(10-2)+(7+9)
10-(2-7)+9
(10-(2-7))+9
10-(2-(7+9))
10-(2-7-9)
10-((2-7)-9)
(10+2)*(9-7)
10-2+9+7
(10-2)+9+7
10-2+(9+7)
(10-2+9)+7
(10-2)+(9+7)
10-(2-9)+7
(10-(2-9))+7
10-(2-(9+7))
10-(2-9-7)
10-((2-9)-7)
10+7-2+9
(10+7)-2+9
10+(7-2)+9
(10+7-2)+9
((10+7)-2)+9
10+((7-2)+9)
10+7-(2-9)
Git Run TODO Problems Terminal Services Profiler Build
Type: In word 'Kartu' 64:11 LF UTF-8 4 spaces master
```

```
Tucit1_13521031 - inputKeyboard2.txt
File Edit View Navigate Code Refactor Build Run Tools Git Window Help
Tucit1_13521031 test inputKeyboard2.txt
Project Run Main
7+10+9-2
(7+10)+9-2
7+(10+9)-2
7+10+(9-2)
(7+10+9)-2
7+(10+9-2)
((7+10)+9)-2
7+(10+9))-2
7+((10+9)-2)
7+(10+(9-2))
(7+10)+(9-2)
7+9-2+10
(7+9)-2+10
7+(9-2)+10
(7+9-2)+10
7+(9-2+10)
((7+9)-2)+10
(7+(9-2))+10
7+((9-2)+10)
7+9-(2-10)
7+(9-(2-10))
(7+9)-(2-10)
7+9+10-2
(7+9)+10-2
7+(9+10)-2
7+9+(10-2)
(7+9+10)-2
7+(9+10-2)
((7+9)+10)-2
7+(9+10))-2
7+((9+10)-2)
7+(9+(10-2))
7+(9+(10-2))
Type: In word 'Kartu' 64:11 LF UTF-8 4 spaces master
```

```
Tucit1_13521031 - inputKeyboard2.txt
File Edit View Navigate Code Refactor Build Run Tools Git Window Help
Tucit1_13521031 test inputKeyboard2.txt
Project Run Main
10+(7+9-2)
((10+7)+9)-2
(10+(7+9))-2
10+((7+9)-2)
10+(7+(9-2))
(10+7)+(9-2)
(10-7+9)+2
((10-7)+9)+2
(10-(7-9))+2
10+9-2+7
(10+9)-2+7
10+(9-2)+7
(10+9-2)+7
10+(9-2+7)
((10+9)-2)+7
(10+(9-2))+7
10+((9-2)+7)
10+9-(2-7)
10+(9-(2-7))
(10+9)-(2-7)
10+9+7-2
(10+9)+7-2
10+(9+7)-2
10+9+(7-2)
(10+9+7)-2
10+(9+7-2)
((10+9)+7)-2
(10+(9+7))-2
10+((9+7)-2)
10+(9+(7-2))
(10+9)+(7-2)
(10+9+7)+2
Type: In word 'Kartu' 74:11 LF UTF-8 4 spaces master
```

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - inputKeyboard2.txt
Tucil1_13521031 test inputKeyboard2.txt
Project Run Main
9-2+10+7
(9-2)+10+7
9-2+(10+7)
(9-2+10)+7
((9-2)+10)+7
(9-2)*(10+7)
9-(2-10)+7
(9-(2-10))+7
9-(2-(10+7))
9-(2-10-7)
9-((2-10)-7)
9+7-2+10
(9+7)-2+10
9+(7-2)+10
(9+7-2)+10
9+(7-2+10)
((9+7)-2)+10
(9+(7-2))+10
9+((7-2)+10)
9+7-(2-10)
9+(7-(2-10))
(9+7)-(2-10)
(9-7)+(2+10)
9+7+10-2
(9+7)+10-2
9+(7+10)-2
9+7+(10-2)
(9+7+10)-2
9+(7+10-2)
((9+7)+10)-2
(9+(7+10))-2
9+((7+10)-2)
Git Run TODO Problems Terminal Services Profiler Build
Type: In word 'Kartu' 64:11 LF UTF-8 4 spaces master
```

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - inputKeyboard2.txt
Tucil1_13521031 test inputKeyboard2.txt
Project Run Main
9+10+7-2
9+10*(7-2)
(9+10+7)-2
9+(10+7-2)
((9+10)+7)-2
(9+(10+7))-2
9+((10+7)-2)
9+(10*(7-2))
(9+10)*(7-2)
(9+10-7)*2
((9+10)-7)*2
(9+(10-7))*2

Apakah anda ingin menyimpan data tersebut?
1.Ya
2.Tidak
Pilih: 1
masukkan lokasi penyimpanan dan format nama file:
contoh jika menggunakan IntelliJ : ./test/test.txt
contoh jika menggunakan Vscode : ../test/test.txt
./test/inputKeyboard2.txt
Data Berhasil Disimpan

Apakah anda ingin melanjutkan permainan?
1.Ya
2.Tidak
Pilih: 1

Process finished with exit code 0
Git Run TODO Problems Terminal Services Profiler Build
Type: In word 'Kartu' 64:11 LF UTF-8 4 spaces master
```

c. IO/ keyboard3

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - Tools.java
Tucil1_13521031 src Tools validationNumber
Project Run Main Main.java InputKeyboard1 InputKeyboard2.txt Priority.java Results.java Tools.java
Run: Main
Pilih Cara Bermain:
1. Input dengan keyboard
2. Dipilih angka random
Pilih: 1
Masukkan kartu:
1 9 7 A

Kartu yang dipilih:
K 9 7 A

8 Solutions found

(13-9)*(7-1)
(13-1)*(9-7)
(9-13)*(1-7)
(9-7)*(13-1)
(7-9)*(1-13)
(7-1)*(13-9)
(1-13)*(7-9)
(1-7)*(9-13)

Apakah anda ingin menyimpan data tersebut?
1.Ya
2.Tidak
Pilih: 1
masukkan lokasi penyimpanan dan format nama file:
contoh jika menggunakan IntelliJ : ../test/test.txt
contoh jika menggunakan Vscodet : ../test/test.txt
../test/test.txt
Data Berhasil Disimpan

Build completed successfully in 1 sec, 519 ms (a minute ago) 43:1 CRLF UTF-8 4 spaces master

File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - Tools.java
Tucil1_13521031 src Tools validationNumber
Project Run Main Main.java InputKeyboard1 InputKeyboard2.txt Priority.java Results.java Tools.java
Run: Main
8 Solutions found

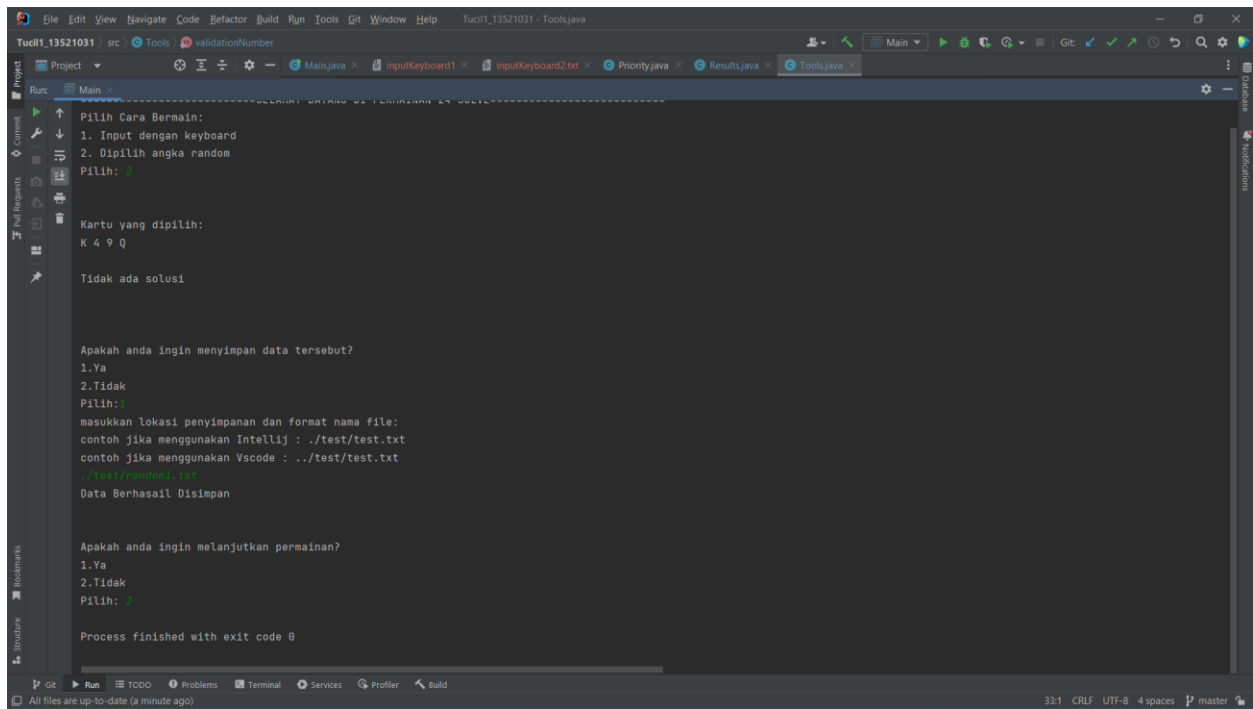
(13-9)*(7-1)
(13-1)*(9-7)
(9-13)*(1-7)
(9-7)*(13-1)
(7-9)*(1-13)
(7-1)*(13-9)
(1-13)*(7-9)
(1-7)*(9-13)

Apakah anda ingin menyimpan data tersebut?
1.Ya
2.Tidak
Pilih: 1
masukkan lokasi penyimpanan dan format nama file:
contoh jika menggunakan IntelliJ : ../test/test.txt
contoh jika menggunakan Vscodet : ../test/test.txt
../test/test.txt
Data Berhasil Disimpan

Apakah anda ingin melanjutkan permainan?
1.Ya
2.Tidak
Pilih: 1
Process finished with exit code 0

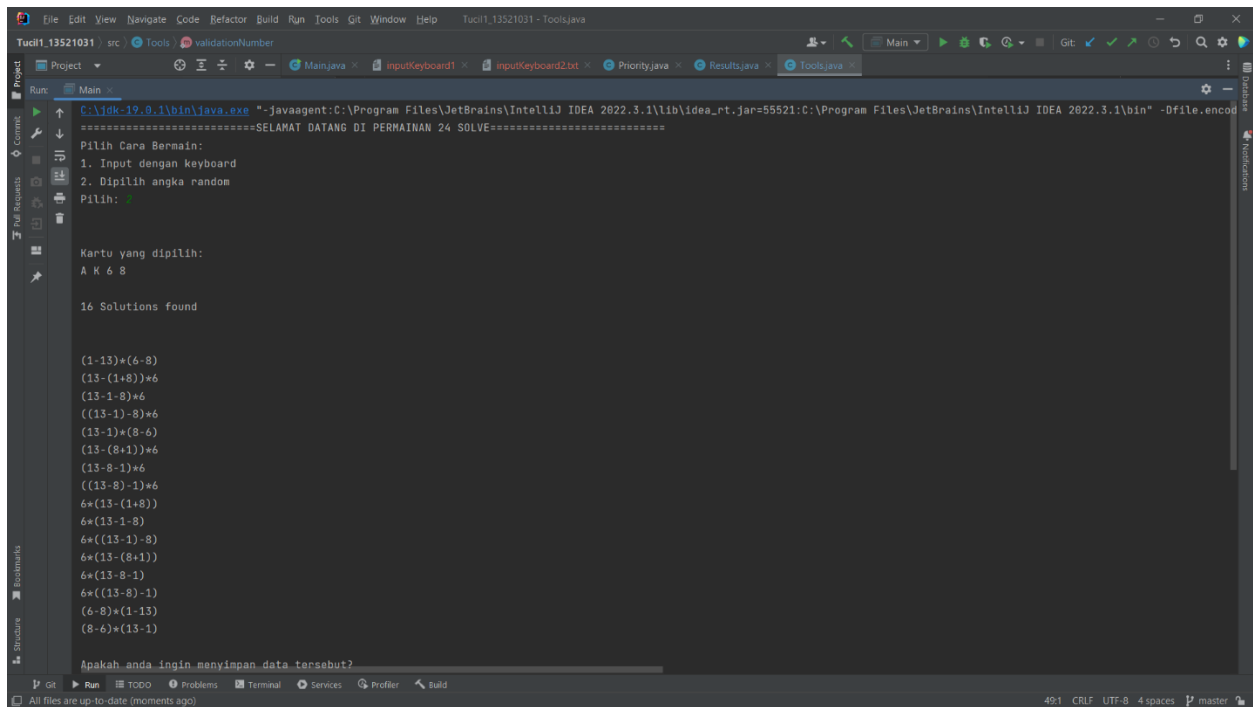
Build completed successfully in 1 sec, 519 ms (a minute ago) 43:1 CRLF UTF-8 4 spaces master
```


d. I/O with random1



```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - Tools.java
Tucil1_13521031 src \ Tools \ validationNumber Main.java InputKeyboard1 InputKeyboard2.txt Priority.java Results.java Tools.java
Project Run Main
Pilih Cara Bermain:
1. Input dengan keyboard
2. Dipilih angka random
Pilih: 2
Kartu yang dipilih:
K 4 9 Q
Tidak ada solusi
Apakah anda ingin menyimpan data tersebut?
1. Ya
2. Tidak
Pilih: 1
masukkan lokasi penyimpanan dan format nama file:
contoh jika menggunakan IntelliJ : ../test/test.txt
contoh jika menggunakan Vscodet : ../test/test.txt
test.txt
Data Berhasil Disimpan
Apakah anda ingin melanjutkan permainan?
1. Ya
2. Tidak
Pilih: 2
Process finished with exit code 0
All files are up-to-date (a minute ago) 13:1 CRLF UTF-8 4 spaces master
```

e. I/O with random2



```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - Tools.java
Tucil1_13521031 src \ Tools \ validationNumber Main.java InputKeyboard1 InputKeyboard2.txt Priority.java Results.java Tools.java
Project Run Main
C:\jdk-19.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2022.3.1\lib\idea_rt.jar=55521:C:\Program Files\JetBrains\IntelliJ IDEA 2022.3.1\bin" -Dfile.encoding=UTF-8
=====SELAMAT DATANG DI PERMAINAN 24 SOLVE=====
Pilih Cara Bermain:
1. Input dengan keyboard
2. Dipilih angka random
Pilih: 2
Kartu yang dipilih:
A K 6 8
16 Solutions Found
(1-13)*(6-8)
(13-(1+8))*6
(13-1-8)*6
((13-1)-8)*6
(13-1)*(8-6)
(13-(8+1))*6
(13-8-1)*6
((13-8)-1)*6
6*(13-(1+8))
6*(13-1-8)
6*((13-1)-8)
6*(13-(8+1))
6*(13-8-1)
6*((13-8)-1)
(6-8)*(1-13)
(8-6)*(13-1)
Apakah anda ingin menyimpan data tersebut?
1. Ya
2. Tidak
Pilih: 1
masukkan lokasi penyimpanan dan format nama file:
contoh jika menggunakan IntelliJ : ../test/test.txt
contoh jika menggunakan Vscodet : ../test/test.txt
test.txt
Data Berhasil Disimpan
Apakah anda ingin melanjutkan permainan?
1. Ya
2. Tidak
Pilih: 2
Process finished with exit code 0
All files are up-to-date (moments ago) 49:1 CRLF UTF-8 4 spaces master
```

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - Tools.java
Tucil1_13521031 src Tools validationNumber Main.java InputKeyboard1 InputKeyboard2.txt Priority.java Results.java Tools.java
Run: Main
(13-1)*(8-6)
(13-1)*(8+6)
(13-8+1)*6
(13-8-1)*6
((13-8)-1)*6
6*(13-(1+8))
6*(13-1-8)
6*((13-1)-8)
6*(13-(8+1))
6*(13-8-1)
6*((13-8)-1)
(6-8)*(1-13)
(8-6)*(13-1)

Apakah anda ingin menyimpan data tersebut?
1.Ya
2.Tidak
Pilih:
masukkan lokasi penyimpanan dan format nama file:
contoh jika menggunakan IntelliJ : ./test/test.txt
contoh jika menggunakan Vscodc : ../test/test.txt

Data Berhasil Disimpan

Apakah anda ingin melanjutkan permainan?
1.Ya
2.Tidak
Pilih:
Process finished with exit code 0
All files are up-to-date (moments ago) 49:1 CRLF UTF-8 4 spaces master
```

f. I/O with random3

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - Tools.java
Tucil1_13521031 src Tools validationNumber Main.java InputKeyboard1 InputKeyboard2.txt Priority.java Results.java Tools.java
Run: Main
C:\jdk-19.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2022.3.1\lib\idea_rt.jar=55525:C:\Program Files\JetBrains\IntelliJ IDEA 2022.3.1\bin" -Dfile.encoding=UTF-8
=====SELAMAT DATANG DI PERMAINAN 24 SOLVE=====
Pilih Cara Bermain:
1. Input dengan keyboard
2. Dipilih angka random
Pilih:

Kartu yang dipilih:
5 7 9 4

94 Solutions found

5+7+4-9
5+(7+4)-9
(5+7+4)-9
5+(7+4)-9
(5+(7+4))-9
5+((7+4)-9)
5-7+4-9
(5-7+4)-9
5*(7-4)+9
(5*(7-4))+9
5-9+7+4
(5-9)+7+4
5-9+7+4
(5-9)+(7+4)
(5-9)*(7+4)
(5-9)-(7+4)
5-9+4*7
```

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - Tools.java
Tucil1_13521031 src Tools validationNumber
Project Project Main.java inputKeyboard1 inputKeyboard2.txt Priority.java Results.java Tools.java
Run: Main
(5-9)+(7+4)
5-9-7+4
(5-9)-7+4
5-(9-(7+4))
5-9+4+7
(5-9)+4+7
5-9+(4+7)
(5-9)+(4+7)
5-9-4+7
(5-9)-4+7
5-(9-(4+7))
5+4+7-9
5+(4+7)-9
(5+4+7)-9
5+(4+7-9)
(5+(4+7))-9
5+((4+7)-9)
5-4+7-9
(5-4+7)-9
7+(9-5)-4
(7+(9-5))-4
(7-4)+5+9
((7-4)+5)+9
7+4+5-9
(7+4)+5-9
7+4+(5-9)
(7+4+5)-9
((7+4)+5)-9
(7+4)+(5-9)
7+4-9+5
(7+4)-9+5
127:1 CRLF UTF-8 4 spaces master
All files are up-to-date (moments ago)
```

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - Tools.java
Tucil1_13521031 src Tools validationNumber
Project Project Main.java inputKeyboard1 inputKeyboard2.txt Priority.java Results.java Tools.java
Run: Main
((7+4)+5)-9
(7+4)+(5-9)
7+4-9+5
(7+4)-9+5
(7+4-9)+5
7+4-(9-5)
(7+4)-(9-5)
9+5+(7-4)
9+(5+(7-4))
(9-5)+7-4
9-5+(7-4)
((9-5)+7)-4
9-(5+(4-7))
9+(7-4)+5
9+((7-4)+5)
9-(7-4)+5
9+4-(5+7)
(9+4)-(5+7)
9+4-5-7
(9+4)-5-7
(9+4-5)-7
((9+4)-5)-7
9-((4-7)+5)
9+4-(7+5)
(9+4)-(7+5)
9+4-7-5
(9+4)-7-5
(9+4-7)-5
((9+4)-7)-5
4+7+5-9
(4+7)+5-9
127:1 CRLF UTF-8 4 spaces master
All files are up-to-date (a minute ago)
```

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - Tools.java
Tucil1_13521031 src Tools validationNumber
Project Project
Run: Main
(9+4)-7-5
(9+4-7)-5
((9+4)-7)-5
4+7+5-9
(4+7)+5-9
4+7+(5-9)
(4+7+5)-9
((4+7)+5)-9
(4+7)+(5-9)
4+7-9+5
(4+7)-9+5
(4+7-9)+5
((4+7)-9)+5
4+7-(9-5)
(4+7)-(9-5)
4+9-(5+7)
(4+9)-(5+7)
4+9-5-7
(4+9)-5-7
(4+9-5)-7
((4+9)-5)-7
4+9-(7+5)
(4+9)-(7+5)
4+9-7-5
(4+9)-7-5
(4+9-7)-5
((4+9)-7)-5

Apakah anda ingin menyimpan data tersebut?
1.Ya
2.Tidak
Pilih:

Git Run TODO Problems Terminal Services Profiler Build
All files are up-to-date (a minute ago) 127.1 CRLF UTF-8 4 spaces master
```

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - Tools.java
Tucil1_13521031 src Tools validationNumber
Project Project
Run: Main
4+9-(5+7)
(4+9)-(5+7)
4+9-5-7
(4+9)-5-7
(4+9-5)-7
((4+9)-5)-7
4+9-(7+5)
(4+9)-(7+5)
4+9-7-5
(4+9)-7-5
(4+9-7)-5
((4+9)-7)-5

Apakah anda ingin menyimpan data tersebut?
1.Ya
2.Tidak
Pilih:
masukkan lokasi penyimpanan dan format nama file:
contoh jika menggunakan IntelliJ : ./test/test.txt
contoh jika menggunakan Vscodet : ../test/test.txt
-./test/test.txt
Data Berhasil Disimpan

Apakah anda ingin melanjutkan permainan?
1.Ya
2.Tidak
Pilih:

Process finished with exit code 0

Git Run TODO Problems Terminal Services Profiler Build
All files are up-to-date (a minute ago) 127.1 CRLF UTF-8 4 spaces master
```

g. I/O with random4

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - Tools.java
Tucil1_13521031 src Tools validationNumber
Project Project Main.java inputKeyboard1 inputKeyboard2.txt Priority.java Results.java Tools.java
Run: Main
C:\jdk-19.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2022.3.1\lib\idea_rt.jar=55528:C:\Program Files\JetBrains\IntelliJ IDEA 2022.3.1\bin" -Dfile.encoding=UTF-8
=====SELAMAT DATANG DI PERMAINAN 24 SOLVE=====
Pilih Cara Bermain:
1. Input dengan keyboard
2. Dipilih angka random
Pilih: 1

Kartu yang dipilih:
3 5 7 J

8 Solutions found

(3-7)*(5-11)
(5-11)*(3-7)
(7-3)*(11-5)
(7+11-5)/3
((7+11)-5)/3
(11-5)*(7-3)
(11+7-5)/3
((11+7)-5)/3

Apakah anda ingin menyimpan data tersebut?
1.Ya
2.Tidak
Pilih: 1

Apakah anda ingin melanjutkan permainan?
1.Ya
2.Tidak
Pilih: 1

Process finished with exit code 0
```

```
File Edit View Navigate Code Refactor Build Run Tools Git Window Help Tucil1_13521031 - Tools.java
Tucil1_13521031 src Tools validationNumber
Project Project Main.java inputKeyboard1 inputKeyboard2.txt Priority.java Results.java Tools.java
Run: Main
Pilih Cara Bermain:
1. Input dengan keyboard
2. Dipilih angka random
Pilih: 1

Kartu yang dipilih:
3 5 7 J

8 Solutions found

(3-7)*(5-11)
(5-11)*(3-7)
(7-3)*(11-5)
(7+11-5)/3
((7+11)-5)/3
(11-5)*(7-3)
(11+7-5)/3
((11+7)-5)/3

Apakah anda ingin menyimpan data tersebut?
1.Ya
2.Tidak
Pilih: 1

Apakah anda ingin melanjutkan permainan?
1.Ya
2.Tidak
Pilih: 1

Process finished with exit code 0
```

4. Link Repository

[Tucil1_13521031](#)

5. Table

POIN	YA	TIDAK
1. Program berhasil dikompilasi tanpa kesalahan	✓	
2. Program berhasil running	✓	
3. Program dapat membaca input / generate sendiri dan memberikan luaran	✓	
4. Solusi yang diberikan program memenuhi (berhasil mencapai 24)	✓	
5. Program dapat menyimpan solusi dalam file teks	✓	