LAPORAN PRAKTIKUM STRUKTUR DATA

STRUCT AND ARRAY

I Gusti Ngurah Agung Ramanda Jaya Putra   (1608561025)

JURUSAN ILMU KOMPUTER

PROGRAM STUDI TEKNIK INFORMATIKA

FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM

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Kata Pengantar

Puji syukur kami panjatkan kehadirat Tuhan Yang Maha Esa karena dengan rahmat, karunia, serta taufik dan hidayah-Nya saya dapat menyelesaikan laporan praktikum strukutur data tentang struct dan array.

Dari sanalah semua kesuksesan ini berawal, semoga semua ini bisa memberikan sedikit kebahagiaan dan menuntun pada langkah yang lebih baik lagi.

Meskipun saya sebagai penulis berharap isi dari laporan ini bebas dari kekurangan dan kesalahan, namun selalu ada yang kurang. Oleh karena itu, saya sebagai penulis mengaharapkan kritik dan saran yang membangun agar makalah ini lebih baik lagi.

Akhir kata saya mengucapkan terima kasih dan berharap agar laporan praktikum strukutur data tentang struct dan array yang saya telah buat ini bermanfaat bagi bapak dosen yang akan memeriksa laporan ini.

BAB I

LANDASAN TEORI

Array

Array hanya menyimpan data dengan tipe data yang sama. Sedangkan struct bisa juga dikatakan sebagai tipe data baru yang dapat menampung berbagai tipe data lain yang berbeda.

Struct

Struct adalah tipe data bentukan yang berisi kumpulan variabel-variabel yang berada dalam satu nama yang sama dan memiliki kaitan satu sama lain. Berbeda dengan array hanya berupa kumpulan variabel yang bertipe data sama, struct bisa memiliki variabel-variabel yang bertipe data sama atau berbeda, bahkan bisa menyimpan variabel yang bertipe data array atau struct itu sendiri. Variabel-variabel yang menjadi anggota struct disebut dengan elemen struct.

Kita dapat menggunakan data struct yang telah dideklarasikan dengan melakukan deklarasi lengkap di bagian fungsi "main" (struct <nama Struct>;) .

- Penggunaan/pemakaian tipe data struct dilakukan dengan membuat suatu variabel yang bertipe data struct tersebut
- Pengaksesan elemen struct dilakukan secara individual dengan menyebutkan nama variabel struct diikuti dengan operator titik (.)

BAB II

PERMASALAHAN

Membuat program game yang bergenre battle dengan memilih karakter lalu mempunyai health, attack dan defends.

BAB III

PEMBAHASAN

```c
#include <stdio.h>

#include <stdlib.h>

#include <conio.h>

#include <windows.h>

#include <time.h>


struct coordinate{

    int x;

    int y;

    int direction;

};


void gotoxy(int x, int y)

    {

     COORD coord;

     coord.X = x;

     coord.Y = y;

     SetConsoleCursorPosition(GetStdHandle(STD_OUTPUT_HANDLE),
coord);

    }


void AA()
```

```c
{
    printf("Aerobird\n");
}


void BB()
{
    printf("Barraculla\n");
}


void CC()
{
    printf("Chimpazilla\n");
}


void DD()
{
    printf("Droconos\n");
}


void EEE()
{
    printf("Enigmammal\n");
}


void FF()
{
    printf("Freezefox\n");
}
```

```c
void GG()

{

    printf("Gargantulla\n");

}


void ZZ()

{

    printf("Zapping Bee\n");

}


void II()

{

    printf("Inksquid\n");

}


void SS()

{

    printf("Seapug\n");

}



void A()

{

    gotoxy(0,4);

    printf("Attack : 50");

    gotoxy(0,5);

    printf("Defend : 30");

}
```

```c
void B()
{
    gotoxy(0,4);
    printf("Attack : 60");
    gotoxy(0,5);
    printf("Defend : 40");
}


void C()
{
    gotoxy(0,4);
    printf("Attack : 60");
    gotoxy(0,5);
    printf("Defend : 10");
}


void D()
{
    gotoxy(0,4);
    printf("Attack : 50");
    gotoxy(0,5);
    printf("Defend : 20");
}


void E()
{
    gotoxy(0,4);
    printf("Attack : 10");
    gotoxy(0,5);
```

```c
    printf("Defend : 90");
}


void F()
{
    gotoxy(0,4);
    printf("Attack : 40");
    gotoxy(0,5);
    printf("Defend : 60");
}


void G()
{
    gotoxy(0,4);
    printf("Attack : 20");
    gotoxy(0,5);
    printf("Defend : 40");
}


void Z()
{
    gotoxy(0,4);
    printf("Attack : 70");
    gotoxy(0,5);
    printf("Defend : 10");
}


void I()
{
```

```c
    gotoxy(0,4);

    printf("Attack : 30");

    gotoxy(0,5);

    printf("Defend : 50");

}


void S()

{

    gotoxy(0,4);

    printf("Attack : 20");

    gotoxy(0,5);

    printf("Defend : 40");

}


void EA()

{

    gotoxy(0,9);

    printf("Attack : 50");

    gotoxy(0,10);

    printf("Defend : 30");

}


void EB()

{

    gotoxy(0,9);

    printf("Attack : 60");

    gotoxy(0,10);

    printf("Defend : 40");

}
```

```c
void EC()
{
    gotoxy(0,9);
    printf("Attack : 60");
    gotoxy(0,10);
    printf("Defend : 10");
}


void ED()
{
    gotoxy(0,9);
    printf("Attack : 50");
    gotoxy(0,10);
    printf("Defend : 20");
}


void EE()
{
    gotoxy(0,9);
    printf("Attack : 10");
    gotoxy(0,10);
    printf("Defend : 90");
}


void EF()
{
    gotoxy(0,9);
    printf("Attack : 40");
```

```c
    gotoxy(0,10);

    printf("Defend : 60");

}


void EG()

{

    gotoxy(0,9);

    printf("Attack : 20");

    gotoxy(0,10);

    printf("Defend : 40");

}


void EZ()

{

    gotoxy(0,9);

    printf("Attack : 70");

    gotoxy(0,10);

    printf("Defend : 10");

}


void EI()

{

    gotoxy(0,9);

    printf("Attack : 30");

    gotoxy(0,10);

    printf("Defend : 50");

}


void ES()
```

```c
{
    gotoxy(0,9);

    printf("Attack : 20");

    gotoxy(0,10);

    printf("Defend : 40");

}


int main()

{
    system("cls");

    int p,r,q,HEA=200,ATT=0,DEF=0,hea=200,att=0,def=0,pl,pil,rn;

    printf("\t| Monster | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |\n");

    printf("\t| Health  |200|200|200|200|200|200|200|200|200|200 |\n");

    printf("\t| Attack  |50 |60 |60 |50 |10 |40 |20 |70 |30 |20 |\n");

    printf("\t| Defend  |30 |40 |10 |20 |90 |60 |40 |10 |50 |40 |\n\n");

    printf("1. Aerobird\n");

    printf("2. Barraculla\n");

    printf("3. Chimpazilla\n");

    printf("4. Droconos\n");

    printf("5. Enigmammal\n");

    printf("6. Freezefox\n");

    printf("7. Gargantulla\n");

    printf("8. Zapping Bee\n");

    printf("9. Inksquid\n");

    printf("10. SeaPug\n\n");

    printf("Pilih Monster: ");

    scanf("%d",&p);
```

```c
srand(time(NULL));

system("cls");

switch(p)

{

    case 1: AA(); break;

    case 2: BB(); break;

    case 3: CC(); break;

    case 4: DD(); break;

    case 5: EEE(); break;

    case 6: FF(); break;

    case 7: GG(); break;

    case 8: ZZ(); break;

    case 9: II(); break;

    case 10: SS(); break;

    default: return main(); break;

    break;

}

for(q=0;q<=250000000;q++);

printf("   VS\n");

for(q=0;q<=250000000;q++);

ER:

r=rand()%11;

switch(r)

{

    case 1: AA(); break;

    case 2: BB(); break;

    case 3: CC(); break;

    case 4: DD(); break;

    case 5: EEE(); break;
```

```c
        case 6: FF(); break;

        case 7: GG(); break;

        case 8: ZZ(); break;

        case 9: II(); break;

        case 10: SS(); break;

        default: goto ER; break;

    }

    for(q=0;q<=250000000;q++);

    system("cls");

    gotoxy(25,5);

    printf("BEGIN!!!");

    for(q=0;q<=250000000;q++);

    while (HEA>0&&hea>0)

    {

        system("cls");

        printf("\t\t<MONSTER COMBAT>");

        gotoxy(0,2);

        switch(p)

        {

            case 1: AA(); break;

            case 2: BB(); break;

            case 3: CC(); break;

            case 4: DD(); break;

            case 5: EEE(); break;

            case 6: FF(); break;

            case 7: GG(); break;

            case 8: ZZ(); break;

            case 9: II(); break;

            case 10: SS(); break;
```

```c
        break;
    }
    gotoxy(0,3);
    printf("Health : %d",HEA);
    switch(p)
    {
        case 1: A(); ATT=50; DEF=30; break;
        case 2: B(); ATT=60; DEF=40;break;
        case 3: C(); ATT=60; DEF=10;break;
        case 4: D(); ATT=50; DEF=20;break;
        case 5: E(); ATT=10; DEF=90;break;
        case 6: F(); ATT=40; DEF=60;break;
        case 7: G(); ATT=20; DEF=40;break;
        case 8: Z(); ATT=70; DEF=10;break;
        case 9: I(); ATT=30; DEF=50;break;
        case 10: S(); ATT=20; DEF=40;break;
        break;
    }
    gotoxy(0,7);
    switch(r)
    {
        case 1: AA(); break;
        case 2: BB(); break;
        case 3: CC(); break;
        case 4: DD(); break;
        case 5: EEE(); break;
        case 6: FF(); break;
        case 7: GG(); break;
        case 8: ZZ(); break;
```

```c
        case 9: II(); break;

        case 10: SS(); break;

        break;

    }

    gotoxy(0,8);

    printf("Health : %d",hea);

    switch(r)

    {

        case 1: EA(); att=50; def=30; break;

        case 2: EB(); att=60; def=40;break;

        case 3: EC(); att=60; def=10;break;

        case 4: ED(); att=50; def=20;break;

        case 5: EE(); att=10; def=90;break;

        case 6: EF(); att=40; def=60;break;

        case 7: EG(); att=20; def=40;break;

        case 8: EZ(); att=70; def=10;break;

        case 9: EI(); att=30; def=50;break;

        case 10: ES(); att=20; def=40;break;

        break;

    }

    gotoxy(0,12);

    printf("ATTACK/DEFENDS (1/0)");

    scanf("%d",&pl);

    gotoxy(0,12);

    printf("                         ");

    gotoxy(0,12);

    {


    }
```

```c
rn=rand()%2;

if(pl==0&&rn==0)

    {

        switch(p)

        {

            case 1:

                {

                    printf("Aerobird Has Defended\n");

                };break;

            case 2:

                {

                    printf("Barraculla Has Defended\n");

                };break;

            case 3:

                {

                    printf("Chimpazilla Has Defended\n");

                };break;

            case 4:

                {

                    printf("Droconos Has Defended\n");

                };break;

            case 5:

                {

                    printf("Enigmammal Has Defended\n");

                };break;

            case 6:

                {

                    printf("Freezefox Has Defended\n");

                };break;
```

```c
        case 7:
            {
                printf("Gargantulla Has Defended\n");
            };break;
        case 8:
            {
                printf("Zapping Bee Has Defended\n");
            };break;
        case 9:
            {
                printf("Inksquid Has Defended\n");
            };break;
        case 10:
            {
                printf("Seapug Has Defended\n");
            };break;
    }
    for(q=0;q<=250000000;q++);
    {

    }
    switch(r)
    {
        case 1:
            {
                printf("Aerobird Has Defended\n");
            };break;
        case 2:
            {
```

```c
            printf("Barraculla Has Defended\n");
        };break;
    case 3:
        {
            printf("Chimpazilla Has Defended\n");
        };break;
    case 4:
        {
            printf("Droconos Has Defended\n");
        };break;
    case 5:
        {
            printf("Enigmammal Has Defended\n");
        };break;
    case 6:
        {
            printf("Freezefox Has Defended\n");
        };break;
    case 7:
        {
            printf("Gargantulla Has Defended\n");
        };break;
    case 8:
        {
            printf("Zapping Bee Has Defended\n");
        };break;
    case 9:
        {
            printf("Inksquid Has Defended\n");
```

```c
                };break;
        case 10:
                {
                        printf("Seapug Has Defended\n");
                };break;
            }
        }
    else if(pl==1&&rn==0)
        {
            switch(p)
            {
                case 1:
                    {
                        printf("Aerobird Does Airwave
Attack\n");
                    };break;
                case 2:
                    {
                        printf("Barraculla Does Fangtooth
Attack\n");
                    };break;
                case 3:
                    {
                        printf("Chimpazilla Does Boulder
Attack\n");
                    };break;
                case 4:
                    {
                        printf("Droconos Does Firebreath
Attack\n");
                    };break;
```

```
case 5:

    {

        printf("Enigmammal Does Confusion
Attack\n");

    };break;

case 6:

    {

        printf("Freezefox Does Blizzard
Attack\n");

    };break;

case 7:

    {

        printf("Garganrulla Does Sticky Web
Attack\n");

    };break;

case 8:

    {

        printf("Zapping Bee Does Zap Attack\n");

    };break;

case 9:

    {

        printf("Inksquid Does ink Squirt
Attack\n");

    };break;

case 10:

    {

        printf("Seapug Does Water Splash
Attack\n");

    };break;

}

for(q=0;q<=250000000;q++);
```

```c
{

}
switch(r)
{
    case 1:
        {
            printf("Aerobird Has Defended\n");
        };break;
    case 2:
        {
            printf("Barraculla Has Defended\n");
        };break;
    case 3:
        {
            printf("Chimpazilla Has Defended\n");
        };break;
    case 4:
        {
            printf("Droconos Has Defended\n");
        };break;
    case 5:
        {
            printf("Enigmammal Has Defended\n");
        };break;
    case 6:
        {
            printf("Freezefox Has Defended\n");
        };break;
```

```c
            case 7:

                {

                    printf("Gargantulla Has Defended\n");

                };break;

            case 8:

                {

                    printf("Zapping Bee Has Defended\n");

                };break;

            case 9:

                {

                    printf("Inksquid Has Defended\n");

                };break;

            case 10:

                {

                    printf("Seapug Has Defended\n");

                };break;

        }

        def=def-ATT;

        for(q=0;q<=250000000;q++);

        {


        }

        if(def<=0)

        hea=hea+def;

        if(hea<=0)

        hea=0;

    }


    else if(pl==0&&rn==1)
```

```c
{
    switch(p)
    {
        case 1:
            {
                printf("Aerobird Has Defended\n");
            };break;
        case 2:
            {
                printf("Barraculla Has Defended\n");
            };break;
        case 3:
            {
                printf("Chimpazilla Has Defended\n");
            };break;
        case 4:
            {
                printf("Droconos Has Defended\n");
            };break;
        case 5:
            {
                printf("Enigmammal Has Defended\n");
            };break;
        case 6:
            {
                printf("Freezefox Has Defended\n");
            };break;
        case 7:
            {
```

```c
                printf("Gargantulla Has Defended\n");

            };break;

        case 8:

            {

                printf("Zapping Bee Has Defended\n");

            };break;

        case 9:

            {

                printf("Inksquid Has Defended\n");

            };break;

        case 10:

            {

                printf("Seapug Has Defended\n");

            };break;

    }

    DEF=DEF-att;

    for(q=0;q<=250000000;q++);

    {


    }

    switch(r)

    {

        case 1:

            {

                printf("Aerobird Does Airwave
Attack\n");

            };break;

        case 2:

            {
```

```c
                                printf("Barraculla Does Fangtooth
Attack\n");

                        };break;
                case 3:
                        {
                                printf("Chimpazilla Does Boulder
Attack\n");

                        };break;
                case 4:
                        {
                                printf("Droconos Does Firebreath
Attack\n");

                        };break;
                case 5:
                        {
                                printf("Enigmammal Does Confusion
Attack\n");

                        };break;
                case 6:
                        {
                                printf("Freezefox Does Blizzard
Attack\n");

                        };break;
                case 7:
                        {
                                printf("Garganrulla Does Sticky Web
Attack\n");

                        };break;
                case 8:
                        {
                                printf("Zapping Bee Does Zap Attack\n");
                        };break;
```

```c
                case 9:
                    {
                        printf("Inksquid Does ink Squirt
Attack\n");
                    };break;
                case 10:
                    {
                        printf("Seapug Does Water Splash
Attack\n");
                    };break;
            }
            if(DEF<=0)
            HEA=HEA+DEF;
            if(HEA<=0)
            HEA=0;
        }
    else
        {
        switch(p)
        {
            case 1:
                {
                    printf("Aerobird Does Airwave
Attack\n");
                };break;
            case 2:
                {
                    printf("Barraculla Does Fangtooth
Attack\n");
                };break;
            case 3:
```

```c
            {
                printf("Chimpazilla Does Boulder
Attack\n");
            };break;
        case 4:
            {
                printf("Droconos Does Firebreath
Attack\n");
            };break;
        case 5:
            {
                printf("Enigmammal Does Confusion
Attack\n");
            };break;
        case 6:
            {
                printf("Freezefox Does Blizzard
Attack\n");
            };break;
        case 7:
            {
                printf("Garganrulla Does Sticky Web
Attack\n");
            };break;
        case 8:
            {
                printf("Zapping Bee Does Zap Attack\n");
            };break;
        case 9:
            {
                printf("Inksquid Does ink Squirt
Attack\n");
```

```c
                };break;

        case 10:

            {

                printf("Seapug Does Water Splash
Attack\n");

                };break;

    }

    hea=hea-ATT;

    for(q=0;q<=250000000;q++);

    {


    }

    switch(r)

    {

        case 1:

            {

                printf("Aerobird Does Airwave
Attack\n");

                };break;

        case 2:

            {

                printf("Barraculla Does Fangtooth
Attack\n");

                };break;

        case 3:

            {

                printf("Chimpazilla Does Boulder
Attack\n");

                };break;

        case 4:

            {
```

```c
                        printf("Droconos Does Firebreath
Attack\n");

                    };break;

                case 5:

                    {

                        printf("Enigmammal Does Confusion
Attack\n");

                    };break;

                case 6:

                    {

                        printf("Freezefox Does Blizzard
Attack\n");

                    };break;

                case 7:

                    {

                        printf("Garganrulla Does Sticky Web
Attack\n");

                    };break;

                case 8:

                    {

                        printf("Zapping Bee Does Zap Attack\n");

                    };break;

                case 9:

                    {

                        printf("Inksquid Does ink Squirt
Attack\n");

                    };break;

                case 10:

                    {

                        printf("Seapug Does Water Splash
Attack\n");

                    };break;
```

```c
            }
            HEA=HEA-att;
            if(HEA<=0)
            HEA=0;
            if(hea<=0)
            hea=0;
        }
    for(q=0;q<=250000000;q++);
    gotoxy(9,3);
    printf("%d     ",HEA);
    gotoxy(9,3);
    printf("%d     ",HEA);
    gotoxy(9,8);
    printf("%d     ",hea);
    gotoxy(9,8);
    printf("%d     ",hea);
    gotoxy(0,14);
    for(q=0;q<=250000000;q++);
}
system("cls");
if(hea<HEA)
printf("YOU WIN!!\n");
else if(HEA<hea)
printf("YOU LOSE!!\n");
else
printf("TIE!!\n");
getch();
system("cls");
printf("Replay? (1/0)");
```

```
        scanf("%d",&pil);

        if(pil==1)

        {

            return main();

        }

        return 0;

}
```

Hasil program

```
| Monster | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Health  |200|200|200|200|200|200|200|200|200|200 |
| Attack  |50 |60 |60 |50 |10 |40 |20 |70 |30 |20  |
| Defend  |30 |40 |10 |20 |90 |60 |40 |10 |50 |40  |

1. Aerobird
2. Barraculla
3. Chimpazilla
4. Droconos
5. Enigmammal
6. Freezefox
7. Gargantulla
8. Zapping Bee
9. Inksquid
10. SeaPug

Pilih Monster:
```

```
Aerobird
    VS
Gargantulla
```

```
             <MONSTER COMBAT>

Aerobird
Health : 200
Attack : 50
Defend : 30

Gargantulla
Health : 200
Attack : 20
Defend : 40

Aerobird Does Airwave Attack
Gargantulla Has Defended
```

YOU WIN!!

Replay? (1/0)