

```
#include <iostream>
#include <conio.h>
#include <stdlib.h>
#include <windows.h>
using namespace std;
```

```
char pilih;
int jmlh;
```

```
void DELAY();
void AWAL();
void INSERT();
void DELETEQ();
void MENU();
```

```
struct node{
    char kar;
    node *next;
};
node *tail, *now, *head;
```

```
int main() {
    AWAL();
    MENU();
    jmlh = 0;
    system("cls");
    getch();
}
```

```
void gotoxy(int x, int y){
```

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```
COORD coord;  
coord.X = x;  
coord.Y = y;  
SetConsoleCursorPosition(GetStdHandle(STD_OUTPUT_HANDLE), coord);  
}
```

```
void DELAY(){  
    for(int y = 1; y < 100; y++)  
        for(int x = 1; x < 100; x++)  
            for(int p = 1; p < 100; p++)  
                cout<<" ";  
}
```

```
void AWAL(){  
    tail = NULL;  
    head = NULL;  
}
```

```
void PUSH(char ch){  
    now = new node;  
    if(head == NULL){  
        now -> kar = ch;  
        now -> next = NULL;  
        tail = now;  
        head = now;  
    }  
    else{  
        now -> kar = ch;  
        now -> next = NULL;  
        tail -> next = now;
```

```

    tail = now;
}
}

```

```

void INSERT(){
    int i;
    char temp;
    gotoxy(1,6);
    cout<<"    ";
    gotoxy(1,8);
    cout<<"    ";
    gotoxy(1,6);
    cout<<"Masukkan Karakter : ";
    cin>>temp;
    gotoxy(1,6);
    cout<<"    ";
    PUSH(temp);

    for(i = 1; i <= 75-jmlh*6; i++){
        gotoxy(i+1,20);cout<<" O";
        gotoxy(i,21); cout<<"("<<now->kar<<"")=";
        gotoxy(i+1,22);cout<<"| |";
        DELAY();
        if(i != 75-jmlh*6){
            gotoxy(i+1,20);cout<<" ";
            gotoxy(i,21);cout<<"    ";
            gotoxy(i+1,22);cout<<" ";
        }
    }
}
}

```

```

void DELETEQ(){
    if(head == NULL){
        gotoxy(1,8); cout<<"antrean kosong!";
        DELAY();
    }
    else{
        jmlh = jmlh - 1;
        char delete_element = head -> kar;
        node *temp;
        temp = head;
        head = head -> next;
        delete temp;
        for(int i = 69; i <= 76; i++){
            gotoxy(i+1,20); cout<<" O";
            gotoxy(i,21); cout<<"("<<delete_element<<"="";
            gotoxy(i+1,22); cout<<"| ";
            DELAY();
            gotoxy(i+1,20); cout<<" ";
            gotoxy(i,21); cout<<" ";
            gotoxy(i+1,22); cout<<" ";
        }
        int byk = 0;
        while(byk != jmlh){
            byk = byk + 1;
            for(int i = 69-byk*6; i <= 75-byk*6; i++){
                gotoxy(i+1,20); cout<<" O";
                gotoxy(i,21); cout<<"("<<head->kar<<"="";
                gotoxy(i+1,22); cout<<"| ";
                DELAY();
            }
        }
    }
}

```

```

    if(i != 75-byk*6){
        gotoxy(i+1,20); cout<<" ";
        gotoxy(i,21); cout<<" ";
        gotoxy(i+1,22); cout<<" ";
    }
}
}
}
}
}

```

```

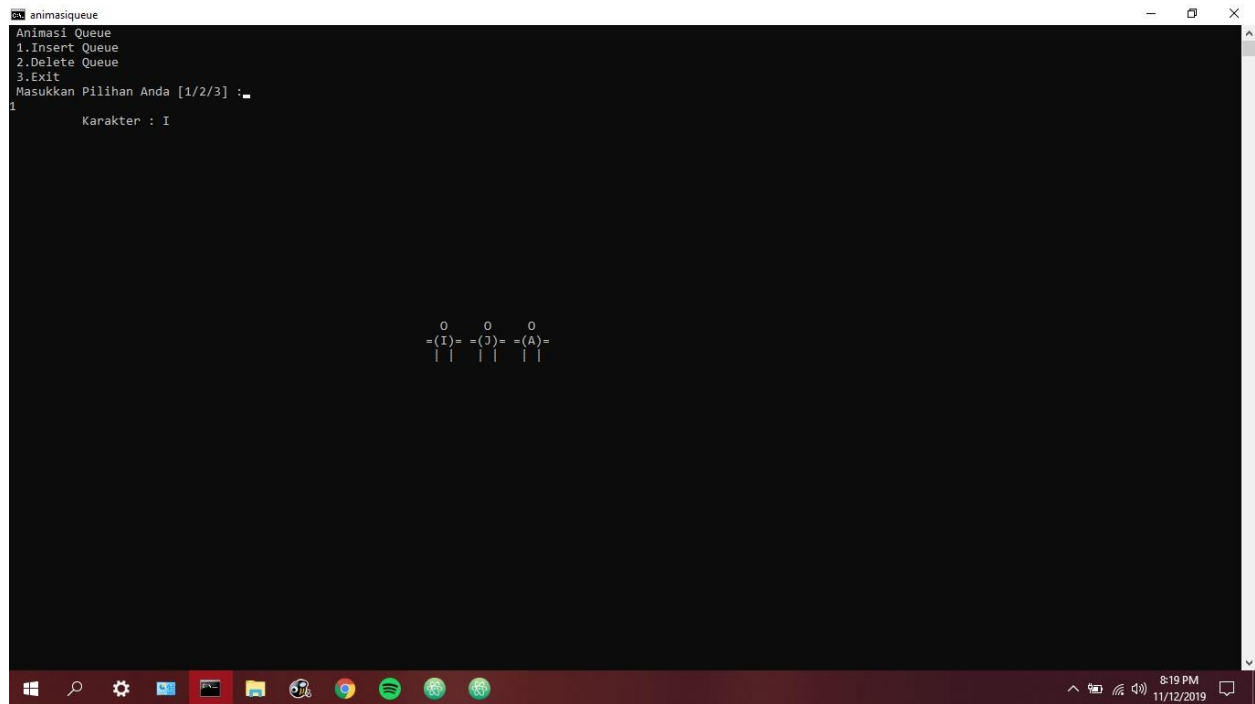
void MENU(){
    gotoxy(1,0);cout<<"Animasi Queue";
    gotoxy(1,1);cout<<"1.Insert Queue";
    gotoxy(1,2);cout<<"2.Delete Queue";
    gotoxy(1,3);cout<<"3.Exit";
    do{
        gotoxy(1,4);cout<<"Masukkan Pilihan Anda [1/2/3] : ";
        gotoxy(32,4);cin>>pilih;
        gotoxy(32,4);cout<<" ";
        switch(pilih){
            case '1':
                if(jmlh < 10){
                    jmlh = jmlh+1;
                    INSERT();
                }
            else{
                gotoxy(1,8); cout<<"antrean penuh !";
                DELAY();
                gotoxy(1,8); cout<<" ";
            }
        }
    }
}

```

```

        break;
    case '2':
        DELETEQ();
        break;
    case '3':
        exit(1);
        break;
    }
}while(1);
}

```



```

animasiqueue
Animasi Queue
1.Insert Queue
2.Delete Queue
3.Exit
Masukkan Pilihan Anda [1/2/3] :_
1
    Karakter : I

```

$$= \begin{pmatrix} 0 \\ 1 \end{pmatrix} - \begin{pmatrix} 0 \\ 3 \end{pmatrix} = \begin{pmatrix} 0 \\ A \end{pmatrix} =$$