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Prodi : IF 03-02

Link Youtube : <https://youtu.be/3onS3E9POI4>

SOURCE CODE :

```
#include <stdbool.h>
```

```
#include <stdio.h>
```

```
#include <string.h>
```

```
#include <unistd.h>
```

```
#define SIZE 3
```

```
typedef struct {
```

```
    char nama[20];
```

```
    int umur;
```

```
} data;
```

```
data stack[SIZE];
```

```
int top = -1;
```

```
bool is_empty() {
```

```
    if (top == -1) {
```

```
        return true;
```

```
    } else {
```

```
        return false;
```

```
    }
```

```
}
```

```
bool is_full() {
```

```
    if (top == SIZE - 1) {
```

```
        return true;
```

```
    } else {
```

```
    return false;
}
}
```

```
void push(data datadiri) {
    if (is_full()) {
        printf("Stack Penuh.\n");
        sleep(1);
    } else {
        stack[++top] = datadiri;
        printf("=== Push data ===\nNama : %s\nUmur : %d\n", datadiri.nama,
            datadiri.umur);
        sleep(2);
    }
}
```

```
void pop() {
    if (is_empty()) {
        printf("Stack Kosong.\n");
        return;
        sleep(1);
    }
    data popped_value = stack[top--];
    printf("=== Pop data ===\nNama : %s\nUmur : %d\n", popped_value.nama,
        popped_value.umur);
    sleep(2);
}
```

```
void peek() {
    if (is_empty()) {
```

```

    printf("Stack Kosong.\n");
    sleep(1);
} else {
    printf("=== Nilai Teratas ===\nNama : %s\nUmur : %d\n", stack[top].nama,
        stack[top].umur);
    sleep(2);
}
}

```

```

void display() {
    if (is_empty()) {
        printf("Stack Kosong.\n");
        sleep(1);
    } else {
        printf("=== Stack Data ===\n");
        printf("Nama      Umur\n");
        for (int i = 0; i <= top; i++) {
            printf("%-15s %d\n", stack[i].nama, stack[i].umur);
        }
        sleep(2);
    }
}

```

```

int main() {
    printf("\e[H\e[2J\e[3J");
    bool isRunning = true;
    int c, choice;
    data datadiri;
    do {
        printf("\e[H\e[2J\e[3J");

```

```
printf("1. Push\n2. Pop\n3. Peek/Top\n4. Display Data\n5. Exit\n");
```

```
printf("Pilih Menu : ");
```

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

```
switch (choice) {
```

```
case 1:
```

```
    printf("\e[H\e[2J\e[3J");
```

```
    printf("Masukan Nama : ");
```

```
    while ((c = getchar()) != '\n' && c != EOF)
```

```
    ;
```

```
    fgets(datadiri.nama, 20, stdin);
```

```
    datadiri.nama[strlen(datadiri.nama) - 1] = '\0';
```

```
    printf("Masukan Umur : ");
```

```
    scanf("%d", &datadiri.umur);
```

```
    printf("\e[H\e[2J\e[3J");
```

```
    push(datadiri);
```

```
    break;
```

```
case 2:
```

```
    printf("\e[H\e[2J\e[3J");
```

```
    pop();
```

```
    break;
```

```
case 3:
```

```
    printf("\e[H\e[2J\e[3J");
```

```
    peek();
```

```
    break;
```

```
case 4:
```

```
    printf("\e[H\e[2J\e[3J");
```

```
    display();
```

```
    break;
```

```
case 5:
```

```

    printf("\e[H\e[2J\e[3J");

    printf("Exiting...\n");

    isRunning = false;

    sleep(1);

    break;

default:

    printf("\e[H\e[2J\e[3J");

    printf("Input Menu Tidak Ada\nSilahkan Pilih Menu Yang Lain.");

    sleep(1);

    break;

}

} while (isRunning);

printf("\e[H\e[2J\e[3J");

return 0;

}

```

```

=== Stack Data ===
Nama      Umur
Gendhi Ramona  24
Gung Bram   20
Arka Dwi    19

```

```

=== Nilai Teratas ===
Nama : Arka Dwi
Umur : 19

```

```
=== Pop data ===  
Nama : Arka Dwi  
Umur : 19
```

```
█
```

```
=== Pop data ===  
Nama : Gung Bram  
Umur : 20
```

```
█
```

```
=== Pop data ===  
Nama : Gendhi Ramona  
Umur : 24
```

```
█
```

```
Stack Kosong.
```

```
█
```