C, C++ and DSA in depth

Iterative Control instruction

Part-1

Saurabh Shukla (MySirG)

Agenda

1. Iterative control statements
2. while loop
3. Practice problems

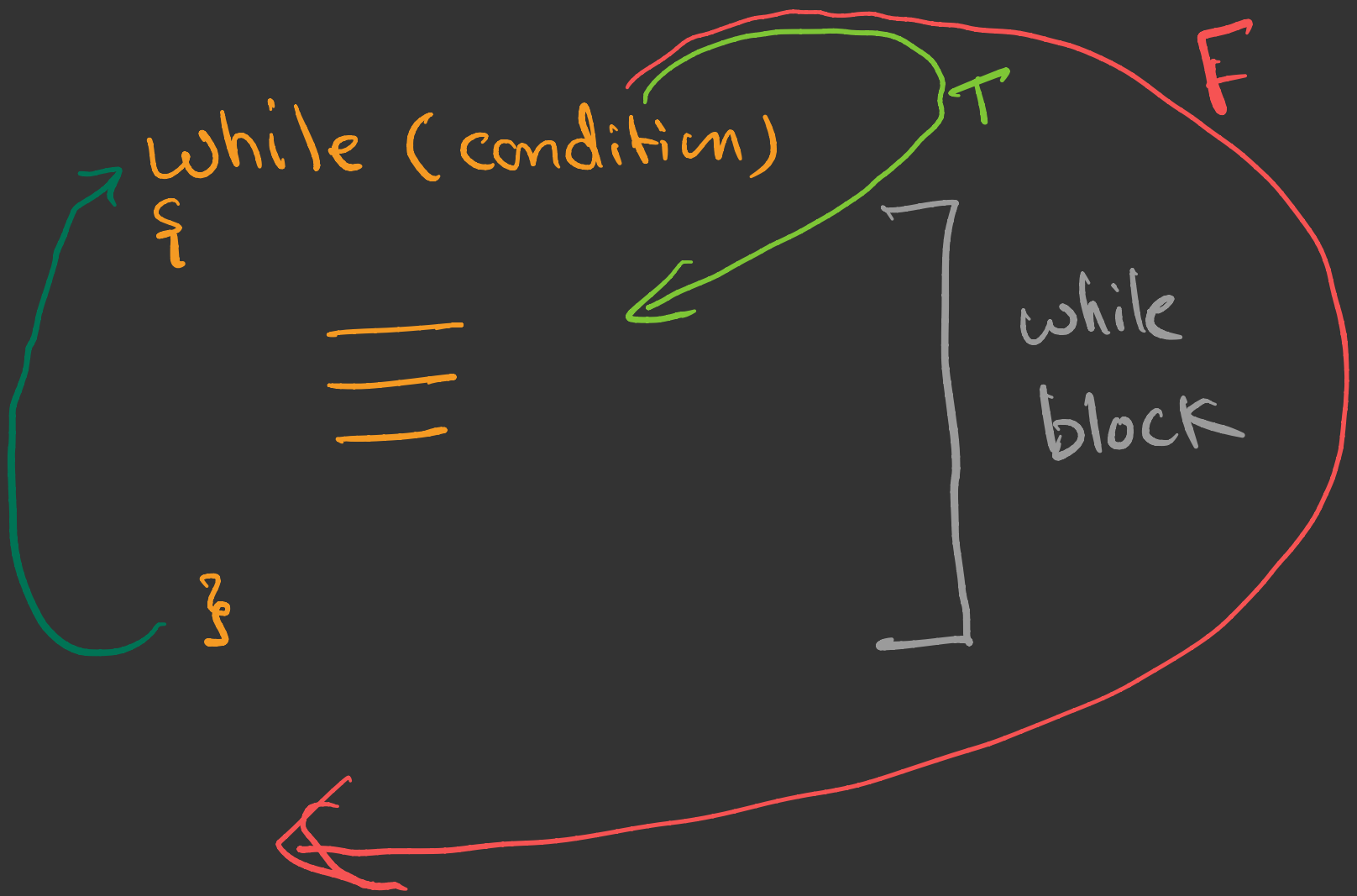
Iterative Control Statements

(loop)

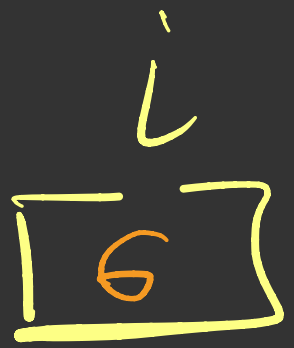
1. while
2. do while
3. for

```
main()
{
    ≡
    while(    )
    {
        ≡
    }
    ≡
    ≡
}
```

While



Write a program to print MySirG 5 times on the screen.




```
int main()
{
    int i=1;

    while(i<=5)
    {
        printf("MySirG");
        i++;
    }

}
```

Write a program to print first 10 natural numbers.

1 2 3 4 5 6 7 8 9 10

```
int main()
{
    int i=1;
    while( i<=10)
    {
        printf("%d ", i);
        i++;
    }
}
```

initialize

conditim

flow

Write a program to print first N natural numbers.

N = 5	N = 8	N = 3
1 2 3 4 5	1 2 3 4 5 6 7 8	1 2 3

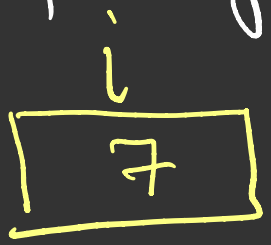
① Read
② Testcase
③ Dry Run

```
int i=1, N;
printf("Enter a number");
scanf("%d", &N);
while (i<=N)
{
        printf("%d", i);
        i++;
}
```

N = 5	i <= 5
N = 8	i <= 8
N = 3	i <= 3

Find Output of the program

```
int main()
{
    int i=0;
    while (i<=6)
    {
        if(i%2)
            i = i - 3;
        else
            i = i + 5;
        printf("%d ", i);
    }
    printf("%d ", i);
}
```



0<=6 T
5<=6 T
2<=6 T
7<=6 F

5 2 7 7