



Lab 5: *Loops*

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Concept of looping

If we need to repeat steps multiple time as long as some something is true – we use loop structure.

There are few kind of loops that slightly differ in how they control the flow.

We will review while-loop, do-while-loop, and for-loop.

While Loop

- is a control flow statement that executes body of the loop as long as Boolean expression is true.
- "repeated if-statement"

C++ syntax for while-loop:

```
while (Boolean expression)
```

```
{
```

```
  Your_Statement;
```

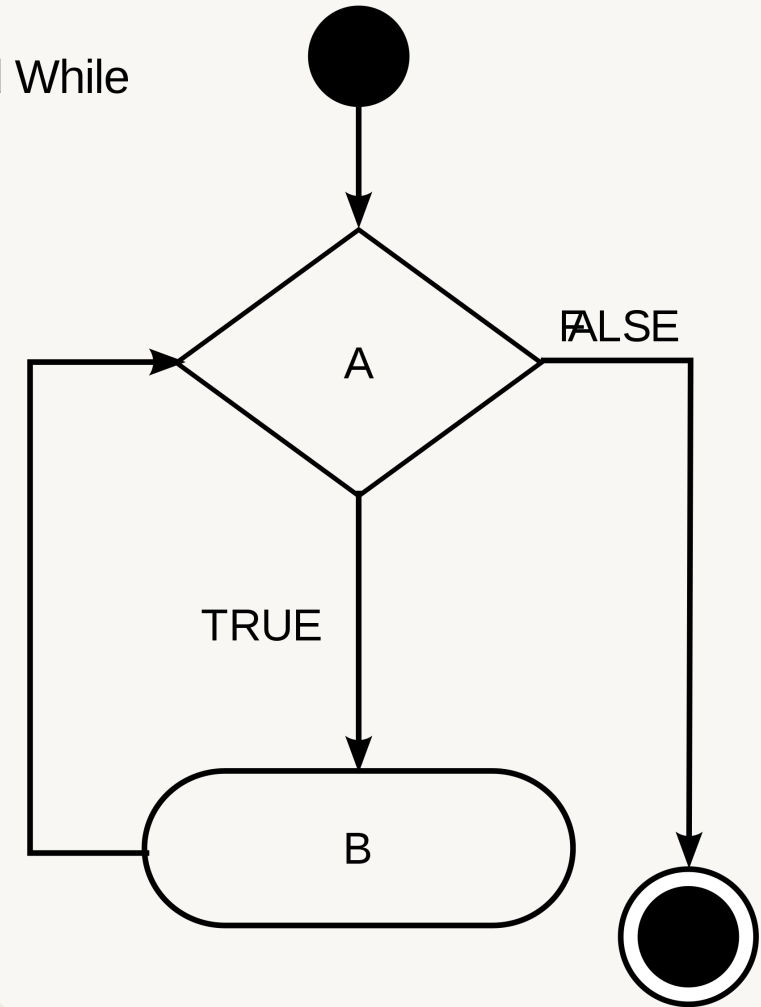
```
  Update the controlling variable;
```

```
}
```

While (A = TRUE) Do

B

End While

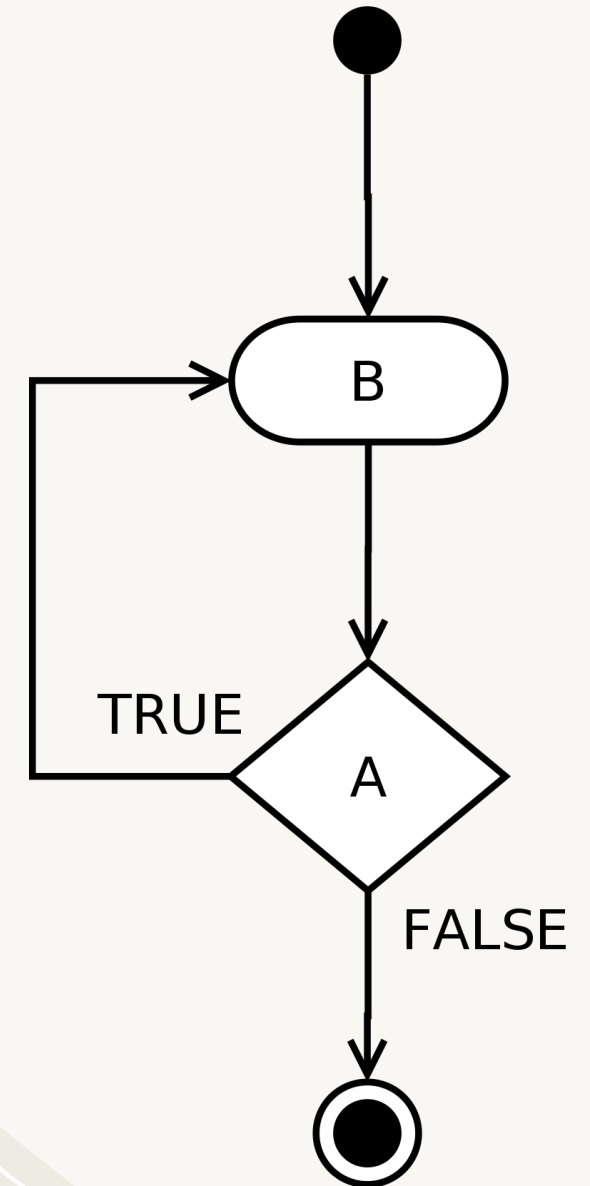


do-while Loop

- control flow statement that executes a block of code **at least once**, and then either repeatedly executes the block, or stops executing it, depending on a given boolean condition at the end of the block.
- C++ syntax for do-while loop:

```
do  
{  
    Statement;  
    Update the control variable;  
}  
while (boolean);
```

**DO B
WHILE (A)
END WHILE**



for Loop

- control flow statement for **specifying iteration**, which allows code to be executed repeatedly;
- C++ syntax for for-loop:

```
for (int i=0; i<a; ++i)
{
    statement;
}
```

for(A;B;C)
D;

