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Statements

Participants:

- Ritu Sibbal
- ROHIT SHARMA
- KATARI PRAJEET YADAV
- MEGHNA

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- A *statement* is a part of your program that can be executed.
- statement specifies an action.
- C categorizes statements into these groups:
 - **Selection**
 - **Iteration**
 - **Jump**
 - **Label**
 - **Expression**
 - **Block**

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Selection

- The selection statements are **if** and **switch statements**.
- The selection statements are also known as *conditional statement*
- In addition, the **?** operator is an alternative to **if** in certain circumstances.

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Example

```
/* Magic number program */
#include <stdio.h>
#include <stdlib.h>
int main (void)
{
    int magic; /* magic number */
    int guess; /* user's guess */
    magic = rand(); /* generate the magic number */
    printf("Guess the magic number: ");
    scanf("%d", &guess);
    if(guess == magic) printf("*** Right ***");
    else printf("wrong");
    return 0;
}
```

Participants:

- Ritu Sibbal
- ROHIT SHARMA
- AKHIL DUBEY
- KAUSTAV SARKAR

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SHYAMAL JAIN
and 60 more

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You

Nested ifs

- A nested **if** is an **if** that is the target of another **if** or **else**.
- Nested **ifs** are very common in programming.
- In a nested **if**, an **else** statement always refers to the nearest **if** statement that is within the same block as the **else** and that is not already associated with an **else**.
- For example:

You

A

AMAN SONI

R

RAHUL SHARMA

R

Ritu Sibbal

V

VISHAL VERMA

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You

R

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V

VISHAL MALIK
and 60 more

Example

```
if(i)
{
  if(j) dosomething1();
  if(k) dosomething2(); /* this if */
  else dosomething3(); /* is associated with this else */
}
else dosomething4(); /* associated with if(i) */
```

The final **else** is not associated with **if(j)** because it is not in the same block.
Rather, the final **else** is associated with **if(i)**.
Also, the inner **else** is associated with **if(k)**, which is the nearest **if**.

You

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AMAN SONI

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RAHUL SHARMA

R

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V

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- Nesting beyond a few levels is seldom necessary, and excessive nesting can quickly confuse the meaning of an algorithm.

Participants (from top): You, AMAN SONI, APURVA MISHRA, Ritu Sibbal, SHASHANK MISHRA

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```
/* Magic number program with nested if */
#include <stdio.h>
#include <stdlib.h>
int main(void)
{
    int magic; /* magic number */
    int guess; /* user's guess */
    magic = rand(); /* get a random number */
    printf("Guess the magic number: ");
    scanf("%d", &guess);
    if (guess == magic) {
        printf("*** Right ***");
        printf(" %d is the magic number\n", magic);
    }
    else {
        printf("Wrong, ");
        if(guess > magic) printf("too high\n"); /* nested if */
        else printf("too low\n");
    }
    return 0;
}
```

Participants:

- You
- AMAN SONI
- APURVA MISHRA
- Ritu Sibbal
- SHASHANK MISHRA

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SHREYA SINGH and 60 more

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You

The if-else-if Ladder

- A common programming construct is the *if-else-if ladder*, sometimes called the *if-else-if staircase* because of its appearance

```
if (expression)
    statement;
else if (expression)
    statement;
else if (expression)
    statement;
...
else
    statement;
```

You

ROHIT SHARMA

A

APURVA MISHRA

R

Ritu Sibbal

S

SHASHANK MISHRA