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Statement

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- program elements for controlling the run
 - Expression
 - Empty statement
 - Block
 - If statement
 - Loop statement

if - else condition

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```
if(expression)  
    statement1  
else  
    statement2
```

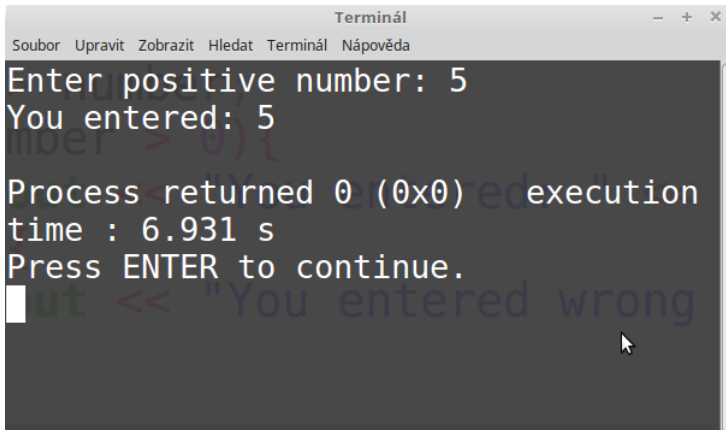
if - else condition

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```
int number;  
cout << "Enter positive number: ";  
cin >> number;  
if(number > 0){  
    cout << "You entered: " << number << endl;  
}else{  
    cout << "You entered wrong number." << endl;  
}
```

if - else condition

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```
Terminál
Soubor Upravit Zobrazit Hledat Terminál Nápověda
Enter positive number: 5
You entered: 5
Process returned 0 (0x0) execution
time : 6.931 s
Press ENTER to continue.
┃ut << "You entered wrong
```

if - else condition

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```
Terminál
Soubor Upravit Zobrazit Hledat Terminál Nápověda

Enter positive number: -1
You entered wrong number.

Process returned 0 (0x0) execution
time : 2.203 s
Press ENTER to continue.
ut << "You entered wrong
```

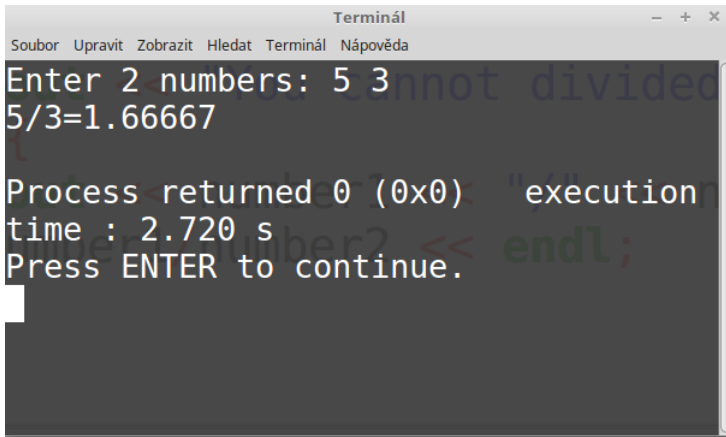
if - else condition

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```
double number1, number2;  
cout << "Enter 2 numbers: ";  
cin >> number1 >> number2;  
if(number2 == 0){  
    cout << "You cannot divided by 0." << endl;  
}else{  
    cout << number1 << "/" << number2 << "=" <<  
    number1/number2 << endl;  
}
```

if - else condition

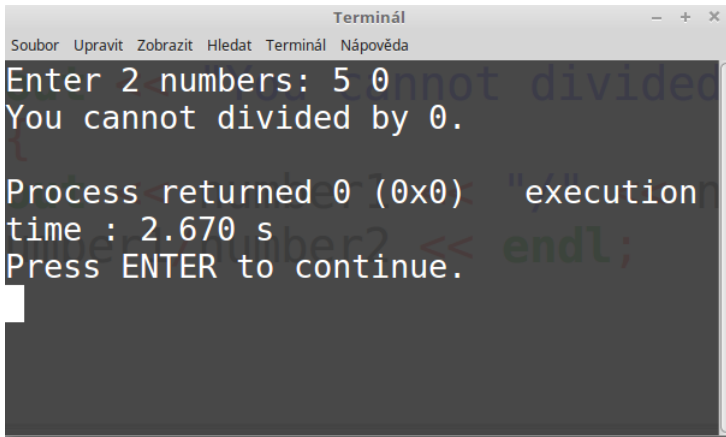
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```
Terminál
Soubor Upravit Zobrazit Hledat Terminál Nápověda
Enter 2 numbers: 5 3
5/3=1.66667
Process returned 0 (0x0) execution
time : 2.720 s
Press ENTER to continue.
```


if - else condition

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The image shows a terminal window titled "Terminál" with a menu bar containing "Soubor", "Upravit", "Zobrazit", "Hledat", "Terminál", and "Nápověda". The terminal output is as follows:

```
Enter 2 numbers: 5 0
You cannot divided by 0.

Process returned 0 (0x0)   execution
time : 2.670 s
Press ENTER to continue.
```

if - else condition

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```
if(expression1)
    statement1
else if(expression2)
    statement2
else if(expression3)
    statement3
else
    statement4
```

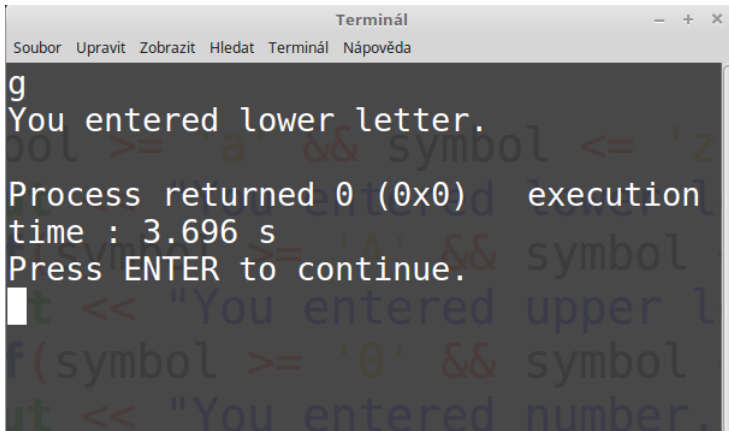
if - else condition

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```
char symbol;  
cin >> symbol;  
  
if(symbol >= 'a' && symbol <= 'z')  
    cout << "You entered lower letter." << endl;  
else if(symbol >= 'A' && symbol <= 'A')  
    cout << "You entered upper letter." << endl;  
else if(symbol >= '0' && symbol <= '9')  
    cout << "You entered number." << endl;  
else  
    cout << "You entered something else." << endl;
```

if - else condition

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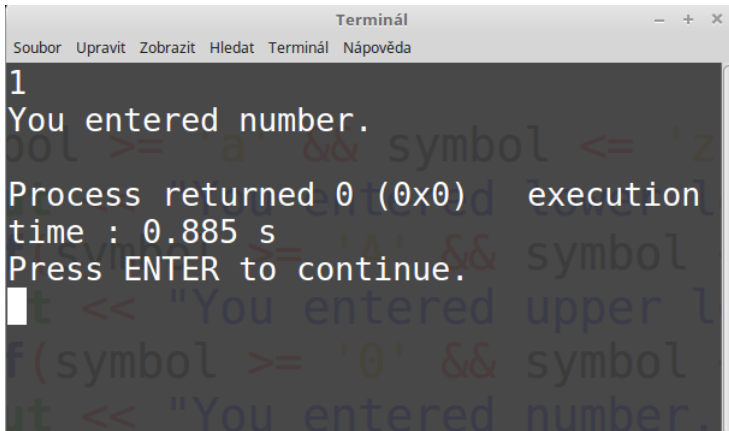


The screenshot shows a terminal window titled "Terminál" with a menu bar containing "Soubor", "Upravit", "Zobrazit", "Hledat", "Terminál", and "Nápověda". The terminal output is as follows:

```
g
You entered lower letter.
Process returned 0 (0x0)   execution
time : 3.696 s
Press ENTER to continue.
t << "You entered upper l
f(symbol >= '0' && symbol
it << "You entered number.
```

if - else condition

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The screenshot shows a terminal window titled "Terminál" with a menu bar containing "Soubor", "Upravit", "Zobrazit", "Hledat", "Terminál", and "Nápověda". The terminal output is as follows:

```
1  
You entered number.  
Process returned 0 (0x0)   execution  
time : 0.885 s  
Press ENTER to continue.  
█
```

switch

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```
switch ( expression )  
    case constant-expression : statement  
    default : statement
```

switch

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```
int day;  
cin >> day;  
string name;  
  
switch(day){  
    case 1 : name = "Monday"; break;  
    case 2 : name = "Tuestay"; break;  
    case 3 : name = "Wednesday"; break;  
    case 4 : name = "Thursday"; break;  
    case 5 : name = "Friday"; break;  
    case 6 : name = "Saturday"; break;  
    case 7 : name = "Sunday"; break;  
    default: name = "Wrong number";  
}  
cout << name << endl;
```

switch

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```
Terminál
Soubor Upravit Zobrazit Hledat Terminál Nápověda
1 : name = "Monday"; break;
Monday
2 : name = "Tuestay"; break;
3 : name = "Wednesday"; break;
Process returned 0 (0x0) execution
time : 1.883 s
Press ENTER to continue.
4 : name = "Thursday"; break;
5 : name = "Friday"; break;
6 : name = "Saturday"; break;
7 : name = "Sunday"; break;
ult: name = "Wrong number";
```


switch

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```
Terminál
Soubor Upravit Zobrazit Hledat Terminál Nápověda
10 : name = "Monday"; break;
Wrong number
2 : name = "Tuestay"; break;
3 : name = "Wednesday"; break;
Process returned 0 (0x0) execution
time : 2.914 s "Thursday"; break;
Press ENTER to continue."
5 : name = "Friday"; break;
6 : name = "Saturday"; break;
7 : name = "Sunday"; break;
ult: name = "Wrong number";
```

while

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while(expression)
statement



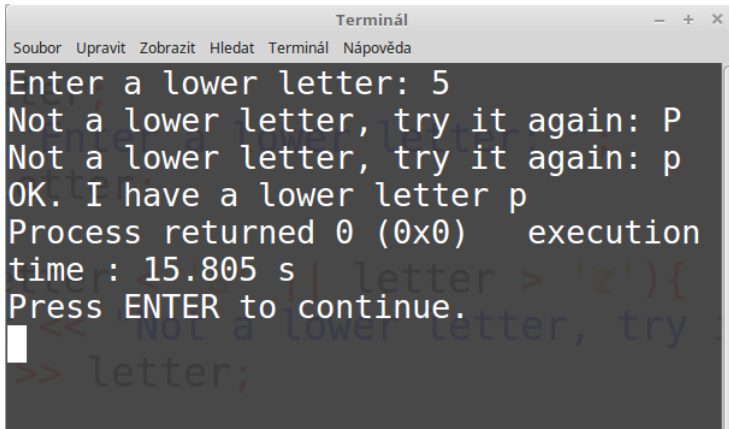
while

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```
char letter;  
cout << "Enter a lower letter: ";  
cin >> letter;  
  
while(letter < 'a' || letter > 'z'){  
    cout << "Not a lower letter, try it again: ";  
    cin >> letter;  
}  
  
cout << "OK. I have a lower letter |" << letter;
```

while

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```
Terminál
Soubor Upravit Zobrazit Hledat Terminál Nápořveda
Enter a lower letter: 5
Not a lower letter, try it again: P
Not a lower letter, try it again: p
OK. I have a lower letter p
Process returned 0 (0x0)   execution
time : 15.805 s
Press ENTER to continue.
>> letter;
```

do - while

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```
do  
    statement  
while(expression);
```

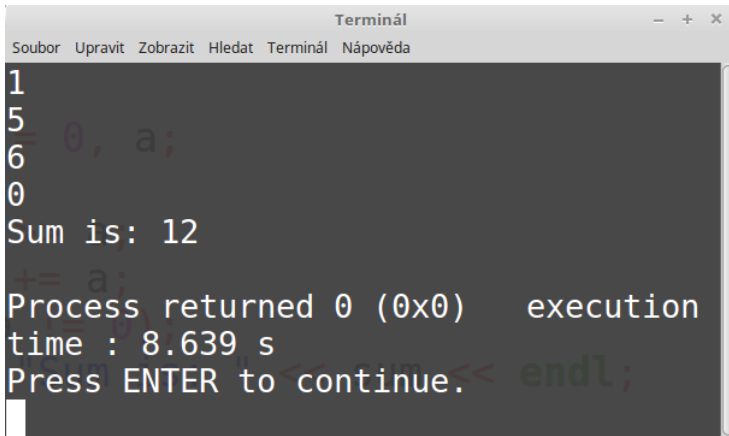
do - while

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```
int sum = 0, a;  
do{  
    cin >> a;  
    sum += a;  
}while(a != 0);  
cout << "Sum is: " << sum << endl;
```

do - while

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```
Terminál
Soubor Upravit Zobrazit Hledat Terminál Nápoředa
1
5
6
0
Sum is: 12
Process returned 0 (0x0)    execution
time : 8.639 s
Press ENTER to continue.< endl;
```

for

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```
for ( init-expression ; cond-expression ; loop-expression )  
    statement
```

- init - one time at the beginning
- cond - condition
- loop - after each loop

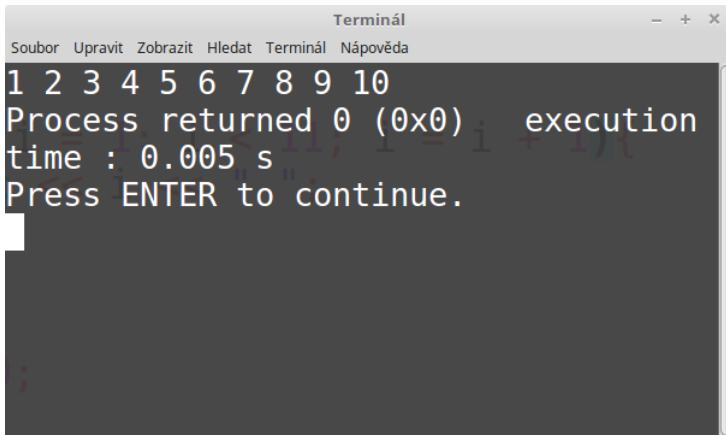
for

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```
for(int i = 1; i < 11; i = i + 1){  
    cout << i << " ";  
}
```

for

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```
Terminál
Soubor Upravit Zobrazit Hledat Terminál Nápověda
1 2 3 4 5 6 7 8 9 10
Process returned 0 (0x0) execution
time : 0.005 s
Press ENTER to continue.
```