Cheatography

Module 2-Control Statements Cheat Sheet

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Basic Structure

```
#include <iostream> //Header file for input-output operations
using namespace std; //Allow using standard namespace
int main()
{
cout << " Hel lo, Wor ld! " << endl; //Prints output to console
return 0;
}
```

Selection Statements

Statement	Descri-ption	Syntax
If Statement	Executes a statement if a condition is true	`if (condi tion) {state men t(s) ;}`
If-else Statement	Executes one block if the condition is true, another if false	`if (condi tion) {statement (s);} else{s tat ement (s);}`
Ternary Operator	A shorthand for if-else	`variable = (condi tion) ? value if true : value if false;`
Switch Statement	Selects a case to execute based on a variable's value	`switch (ex pre ssion) {case valu e: statement; break; default: st atem ent;}`

Loop Control Statements

Statement	Description
break	Exits a loop or switch statement.
continue	Skips the rest of the loop iteration and continues to the next.
exit()	Terminates the program immediately.

IF_ELSE-SWITCH

Input and Output

```
int num;
cout << " Enter a number: ";
cin >> num;
cout << "You entered: " << num << endl;
```

Repetition Statements (Loop)

Loop Type	Description	Syntax
while loop	Repeats a block of code while a condition is true.	`while (condi tion) {state me n t(s);}`
do-while loop	Executes at least once, then repeats while a condition is true.	`do {state men t(s);} while ( condi tion);`
for Loop	A compact loop with initialization, condition, and increment.	`for (int; condition; update) { statem ent(s); }`

Types of Loop

Types	Description
Counter-Controlled Loop	Executes a set number of times.
Sentinel-Controlled Loop	Runs until a special value is entered.
Flag-Controlled Loop	Uses a bool flag to control execution.
Nested Loops	A loop inside another loop.

FOR-BREAK

for Loop Example

```
#include <iostream>
using namespace std;

int main() {
    for (int i = 1; i <= 10; i++) {
        cout << i << " ";
    }

    cout << "\nLoop finished.\n";
    return 0;
}
```

break Statement Example

```
#include <iostream>
using namespace std;

int main() {
    for (int i = 0; i < 10; i++) {
        if (i == 5) {
            cout << "Breaking loop at i = " << i << endl;
            break;
        }
        cout << i << " ";
    }
    return 0;
}
```

CONTINUE-NESTED

continue Statement Example

```
#include <iostream>
using namespace std;

int main() {
    for (int i = 0; i < 5; i++) {
        if (i == 2) continue;
        cout << "Iteration " << i << endl;
    }
    return 0;
}
```

Nested Loop Example

```
#include <iostream>
using namespace std;

int main() {
    for (int i = 1; i <= 3; i++) {
        for (int j = 1; j <= 5; j++) {
            cout << "*";
        }
        cout << endl;
    }

    return 0;
}
```

if-else Statement Example

```
#include <iostream>
using namespace std;

int main() {
    int num;
    cout << "Enter a number: ";
    cin >> num;

    if (num % 2 == 0) {
        cout << "The number is even.\n";
    } else {
        cout << "The number is odd.\n";
    }

    return 0;
}
```

switch Statement Example

```
#include <iostream>
using namespace std;

int main() {
    int day;
    cout << "Enter a day number (1-7): ";
    cin >> day;

    switch (day) {
        case 1: cout << "Monday\n"; break;
        case 2: cout << "Tuesday\n"; break;
        case 3: cout << "Wednesday\n"; break;
        case 4: cout << "Thursday\n"; break;
        case 5: cout << "Friday\n"; break;
        case 6: cout << "Saturday\n"; break;
        case 7: cout << "Sunday\n"; break;
        default: cout << "Invalid input!\n";
    }

    return 0;
}
```

WHILE LOOP

while Loop Example

```
#include <iostream>
using namespace std;

int main() {
    int count = 0;

    while (count < 5) {
        cout << "Count: " << count << endl;
        count++;
    }

    return 0;
}
```

do-while Loop Example

```
#include <iostream>
using namespace std;

int main() {
    int num;
    do {
        cout << "Enter a positive number (-1 to
exit): ";
        cin >> num;
    } while (num != -1);

    cout << "Program terminated.\n";
    return 0;
}
```

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