



ملخص لمراجعة لغة

C++

تابع حسابنا ليصلك الجديد

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الحلقات

While

```
while(<condition>){  
    <statement>;  
}
```

Do-While

```
do{  
    <statement>;  
} while(<condition>);
```

For

```
for(<initialize>; <condition>; <update>){  
    <statement>;  
}
```





السلاسل النصية

C-Style Character String

```
char stringName[6] = {'H', 'e', 'l', 'l', 'o', '\0'};  
char stringName[] = "Hello";
```

Useful Functions

```
strcpy(s1, s2);  
strcat(s1, s2);  
strlen(s1);  
strcmp(s1, s2);  
strchr(s1, ch);  
strstr(s1, s2);
```

String Class

```
string str1 = "Hello";  
string str2 = "World";
```

Additional Functionalities

```
Concatenation: string str3 = str1 + str1;  
Length: int len = str3.size();
```





المشغلات

Arithmetic

Addition: +
Subtraction: -
Multiplication: *
Division: /
Modulus: %

Relational

Less Than: <
Less Than or Equal To: <=
Greater Than: >
Greater Than or Equal To: >=
Equal To: ==
Not Equal To: !=

Logical

OR: ||
AND: &&
NOT: !

I/O

Input: >>
Ex: *cin >> var1;*
Output: <<
Ex: *cout << var1;*

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الرؤوس

Include Headers

#include <headerfile>

Common Headers

iostream

fstream

math

cctype

string

Namespace

using namespace std;

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المصفوفات

Declaration

type arrayName[arraySize];

Initialization

type arrayName[arraySize] = {value1, value2};

Accessing Elements

type varName = arrayName[index];
(index goes from 0 to arraySize-1)

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أنواع البيانات

Data Types

bool
char
int
float
double
void
wchar_t

Type Modifiers

signed
unsigned
short
long

Memory Taken

char, unsigned char, signed char: 1 byte

short int, unsigned short int, signed short int: 2 bytes

int, unsigned int, signed int, float: 4 bytes

long int, signed long int, unsigned long int,
long long int, unsigned long long int, double: 8 bytes

long double: 12 bytes

wchar_t: 2 or 4 bytes

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التتفيذ المشروط

If - Else If - Else

```
if(<condition1>){  
    <statement1>;  
}  
else if(<condition2>){  
    <statement2>;  
}  
else{  
    <statement3>;  
}
```

Switch - Case

```
switch(<expression>){  
    case <constant1>:  
        <statement1>;  
        break;  
    case <constant2>:  
        <statement2>;  
        break;  
    default:  
        <defaultstatement>;  
}
```





مرجع ومؤشر

Pointer

```
int* n1 = &n2;
```

Reference

```
int &n3 = n4;
```

Dereference

```
int n = 3;
```

```
//Pointer
```

```
int* pointer = &n;
```

```
//Dereference
```

```
int dereference = *pointer;
```

