

Arrays of char are special

```
//Can't direct print arrays other than that of chars  
std::cout << std::endl;  
int numbers[] {1,2,3,4,5,6,7,8,9,0};  
std::cout << "numbers : " << numbers << std::endl;
```

Arrays of Characters

Array of characters

```
//Declare array
char message [5] {'H','e','l','l','o'};

//Print out the array through looping
std::cout << "message : ";
for( auto c : message){
    std::cout << c ;
}
std::cout << std::endl;
std::cout << "size : " << std::size(message) <<std::endl;

//Can also modify elements of the char array

std::cout << std::endl;
std::cout << "Modify array data : " << std::endl;

message[1] = 'a';

//Print out the array
std::cout << "message : ";
for( auto c : message){
    std::cout << c ;
}
```


Direct print out

```
char message [5] {'H','e','l','l','o'};  
std::cout << "message : " << message << std::endl;
```

Null termination

```
char message [5] {'H','e','l','l','o', '\0'};  
std::cout << "message : " << message << std::endl;
```

Proper null termination

```
char message1[] {'H','e','l','l','o','\0'};  
  
std::cout << "message1 : " << message1 << std::endl;  
std::cout << "size : " << std::size(message1) << std::endl;
```

Auto filled in null characters

```
char message2[6] {'H','e','l','l','o'};  
  
std::cout << "message2 : " << message2 << std::endl;  
std::cout << "size : "<< std::size(message2) << std::endl;
```


Direct print out

```
char message [5] {'H','e','l','l','o'};  
std::cout << "message : " << message << std::endl;
```


[illegible]

Literal C-strings

```
//Can also define a literal C string
std::cout << std::endl;
char message4 [] {"Hello"}; // An implicit '\0' character is appended to the
                             // end of the string, making it a c string

std::cout << "message4 : " << message4 << std::endl;
std::cout << "size : " << std::size(message4) << std::endl;


//Can even have spaces between characters
std::cout << std::endl;
char message5[] {"Hello World!" };
std::cout << "message5 : " << message5 << std::endl;
std::cout << "size : " << std::size(message5) << std::endl;
```

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std::cout << "numbers : " << numbers << std::endl;
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