Day4

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1. Hello, World breakdown in c++

```cpp
#include<iostream>
using namespace std;
int main(){
  cout<<"Hello, World"<<endl;
  return 0;
}
```

- `Iostream` -> stands for input output stream, it must be included in every c++ file on the top if you want to use input output functionality like cout or cin.
- In c++ you can also write #include<bits/stdc++> in place of #include<iostream>, but remember that it will include all the libraries inside the c++ (means you don't need to include any other header files after it.
- `using namespace std` is used to avoid writing `std::cout<<` or `std::cin>>` every time.
- `main()` function is the main part of the code. It is called automatically. Only the line of code inside main function will be taken under consideration by the compiler.
- `endl` is used to put a newline. You can also use "\n" in place of endl.

- All the statements must include a semicolon ; at the end of the line.

- Anything written after `return 0;` will not be considered by the compiler.

```cpp
#include<bits/stdc++.h>
using namespace std;
int main(){
   cout<<"Will be printed on the output screen\n";
   return 0;
   cout<<"Will not be printed on the output screen\n";
}
```

2. Variables

2.1. Local variable

It is the variable defined inside a function or a condition. You can't use it outside the function or condition in which it is defined.

```cpp
#include<iostream>
using namespace std;
int main(){
   if(true){
      int a = 6;          //defining local variable
      cout<<a<<endl;      //this is correct
   }
   cout<<a<<endl;         //this is incorrect
   return 0;
}
```

- In the above code line above `return 0;` will give you an error because you are trying to access a which was defined in if condition.

- It is only accessible within the curly braces {} of if condition.

2.2. Global variable

It is the variable defined outside the main function. It is used in every part of your code after the line from where it is defined.

```cpp
#include<iostream>
using namespace std;
int a = 6;              //defining global variable
int main(){
  if(true){
    cout<<a<<endl;      //this is correct
  }
  cout<<a<<endl;        //this is also correct
  return 0;
}
```

3. References

3.1. Youtube link: [freecodingclub](#)

All the videos of the sessions will be uploaded there.

3.2. Other links

- [cppreference.com](#)
- [cplusplus.com](#)
- [cpp.sh](#)

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