

# Object Oriented Programming Using C++

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## Day 1

### Quick Review of C programming language

#### History

- Inventor: Dennis Ritchie
- Location: At&T Bell Lab
- Development Year: 1969-1972
- Operating System: Unix
- Hardware: PDP-11
- C is statically type checked as well as strongly type checked language.
- C is a general purpose programming language.
- Extension: .c
- Standardization: ANSI
  - C89
  - C95
  - C99
  - C11
  - C17
  - C23

#### Data Type

- Data Type Describe following things:
  - Size: How much memory is required to store the data.
  - Nature: Which type of data is allowed to stored inside memory
  - Operation: Which operations are allowed to perform on the data stored inside memory
  - Range: How much data is allowed to store inside memory
- Types:
  - Fundamental Data Types( 5 )
    - void
    - char
    - int
    - float
    - double
  - Derived Data Types
    - Array
    - Function
    - Pointer
  - User Defined Data Types

- Structure
- Union
- Type Modifiers
  - short
  - long
  - signed
  - unsigned
- Type Qualifiers
  - const
  - volatile

## Entry Point Function

- According to ANSI specification, entry point function should be "main".
- Syntax: 1

```
int main( int argc, char *argv[ ], char *envp[ ] ){
    return 0;
}
```

- Syntax: 2

```
void main( int argc, char *argv[ ], char *envp[ ] ){

}
```

- Syntax: 3

```
int main( int argc, char *argv[ ] ){
    return 0;
}
```

- Syntax: 4

```
void main( int argc, char *argv[ ] ){

}
```

- Syntax: 5

```
int main( void ){  
    return 0;  
}
```

- Syntax: 6

```
void main( void ){  
  
}
```

- Syntax: 7

```
void main( ){  
  
}
```

- main is user defined function.
- Calling main function is a responsibility of operating system. Hence it is called as callback function.
- main function must be global function.
- We can define only one main function per project. If we do not define main function then linker generates error.