

With GCC family of C compilers, we can mark some functions to execute before and after `main()`. So some startup code can be executed before `main()` starts, and some cleanup code can be executed after `main()` ends. For example, in the following program, `myStartupFun()` is called before `main()` and `myCleanupFun()` is called after `main()`.

```
#include<stdio.h>

/* Apply the constructor attribute to myStartupFun() so that it
   is executed before main() */
void myStartupFun (void) __attribute__((constructor));

/* Apply the destructor attribute to myCleanupFun() so that it
   is executed after main() */
void myCleanupFun (void) __attribute__((destructor));

/* implementation of myStartupFun */
void myStartupFun (void)
{
    printf ("startup code before main()\n");
}

/* implementation of myCleanupFun */
void myCleanupFun (void)
{
    printf ("cleanup code after main()\n");
}

int main (void)
{
    printf ("hello\n");
    return 0;
}
```

Output:

```
startup code before main()
hello
cleanup code after main()
```