1)

```
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$ gcc -o buggy_sigint buggy_sigint.c
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$ ./buggy_sigint
Working... Press Ctrl+C to send SIGINT
^C
Ctrl+C detected! (signal 2)
Working... Press Ctrl+C to send SIGINT
^C
Ctrl+C detected! (signal 2)
Working... Press Ctrl+C to send SIGINT
Working... Press Ctrl+C to send SIGINT
^Z
[1]+  Stopped                 ./buggy_sigint
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$ jobs -l
[1]+ 104470 Stopped              ./buggy_sigint
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$ kill -KILL 104470
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$ jobs -l
[1]+ 104470 Killed               ./buggy_sigint
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$
```

2)

```
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$ gcc -o part2 part2.c
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$ ./part2
Working... you can't stop it!
Working... you can't stop it!
^C
Ctrl+C detected! (signal 2)
Working... you can't stop it!
^Z
Ctrl+C detected! (signal 20)
Working... you can't stop it!
^\
Ctrl+C detected! (signal 3)
Working... you can't stop it!
Working... you can't stop it!
Working... you can't stop it!
Working... you can't stop it!
Working... you can't stop it!
```

I stopped it using another terminal.

```
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$ ps aux | grep part2
erfan      106356  0.0  0.0   2496    580 pts/1    S+   18:58   0:00 ./part2
erfan      106697  0.0  0.0  11916    724 pts/2    S+   19:00   0:00 grep --color=auto part2
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$ kill -KILL 106356
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$
```

```
Working... you can't stop it!
Working... you can't stop it!
Working... you can't stop it!
Working... you can't stop it!
Working... you can't stop it!
Working... you can't stop it!
Killed
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$
```

3)

The difference between **signal()** and **sigaction()** is that **sigaction()** gives us more control and reliability when handling signals. While **signal()** is simpler and often used in quick examples, it can behave inconsistently across systems. For example, some implementations reset the handler after it's triggered, which can lead to unexpected bugs. On the other hand, **sigaction()** is the modern, POSIX-compliant way to handle signals. It lets us fine-tune behavior with flags, block other signals during handling, and ensures our handler stays in place unless we explicitly change it. In short, if we are writing robust or portable code, especially for anything more than a simple script, **sigaction()** is the safer and more powerful choice.

```
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$ gcc -o part3 part3.c
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$ ./part3
Working... you can't stop it!
Working... you can't stop it!
^C
Ctrl+C detected! (signal 2)
Working... you can't stop it!
^Z
Ctrl+C detected! (signal 20)
Working... you can't stop it!
^\
Ctrl+C detected! (signal 3)
Working... you can't stop it!
Working... you can't stop it!
Working... you can't stop it!
```

```
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$ ps aux | grep part3
erfan      108977  0.0  0.0   2496    508 pts/1    S+   19:15   0:00 ./part3
erfan      109021  0.0  0.0  11916    712 pts/2    R+   19:15   0:00 grep --color=auto part3
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$ kill -KILL 108977
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$
```

```
Working... you can't stop it!
Working... you can't stop it!
Working... you can't stop it!
Working... you can't stop it!
Working... you can't stop it!
Killed
erfan@erfan-virtual-machine:~/Desktop/ECS/CA2/P3$
```