C++test

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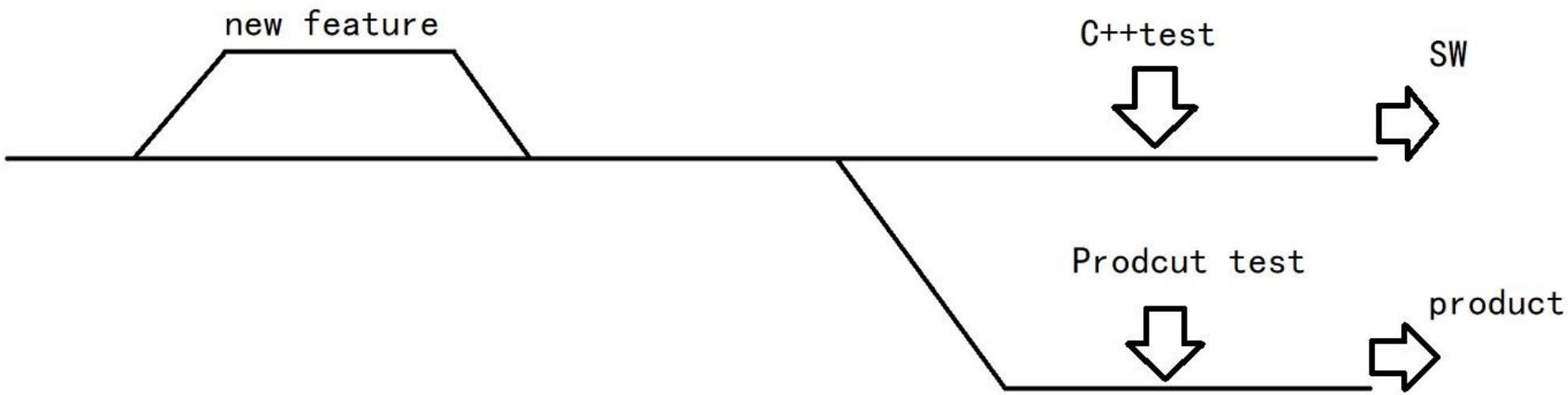
background

- 机器人有很多传感器，用于对未知环境做出判断。
- 由于实验环境条件的限制和对复杂环境的未知，很难在实验室模拟现实中的环境。不仅成本而且覆盖率低。
- 基于Googletest框架的cppunit可以很好的模拟、仿真传感器的各种组合输入，成本低、覆盖率高。

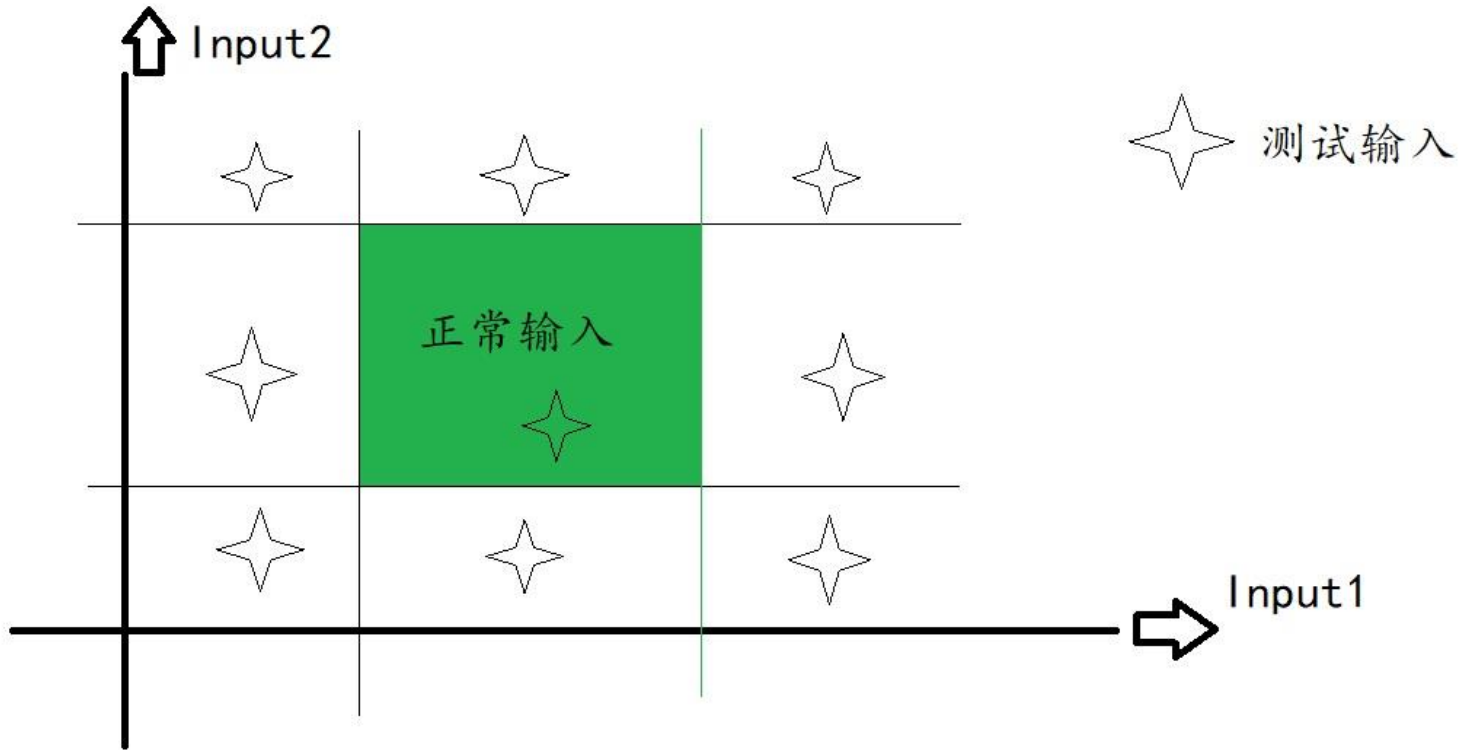
软件测试/产品测试



软件测试/产品测试

软件测试：专注软件质量，新功能集成、迭代开发。稳定性。
产品测试：专注客户定制，客户需求验证与验收方案确认。

二维Sensor输入



Sensor_controller

```
#include <iostream>
class Sensor_control {
private:
        int Sensor_one, Sensor_two, Sensor_three;
public:
        Sensor_control(int one, int two, int three);
        long get() {
                return Sensor_one * Sensor_two * Sensor_three;
        }
};
Sensor_control::Sensor_control(int one, int two, int three) {
        Sensor_one = one;
        Sensor_two = two;
        Sensor_three = three;
}
int main()
{
        Sensor_control sc(-50, 0, 20);
        std::cout << sc.get()<<"\n";
}
```

Test case

- Three sensor input (include range)

Sensor_1	Sensor-2	Sensor-3	Assert
max:145 min:-145	max:60 min:0	max:120 min:-160	

Test case

Sensor_1	Sensor-2	Sensor-3	Assert
max:145 min:-145	max:60 min:0	max:120 min:-160	
160	80	160	0
160	80	100	0
160	80	-140	0
160	80	-220	0
160	50	160	0
160	50	100	0
160	50	-140	0
160	50	-220	0
160	-20	160	0
160	-20	100	0
160	-20	-140	0
160	-20	-220	0
140	80	160	0
140	80	100	0
140	80	-140	0
140	80	-220	0
140	50	160	0
140	50	100	700000
140	50	-140	-980000
140	50	-220	0
140	-20	160	0
140	-20	100	0
140	-20	-140	0
140	-20	-220	0
-120	80	160	0
-120	80	100	0
-120	80	-140	0
-120	80	-220	0
-120	50	160	0
-120	50	100	-600000
-120	50	-140	840000
-120	50	-220	0
-120	-20	160	0
-120	-20	100	0
-120	-20	-140	0
-120	-20	-220	0
-150	80	160	0
-150	80	100	0
-150	80	-140	0
-150	80	-220	0
-150	50	160	0
-150	50	100	0
-150	50	-140	0
-150	50	-220	0
-150	-20	160	0
-150	-20	100	0
-150	-20	-140	0
-150	-20	-220	0

Test result(part)