各主流编程语言语法易混比较分析

	c	C++	java	python	php	js	go	rust

变量	int a;
	char c;
	只能在函数开头定义
		int a;
		char c;
		可以在函数任意位置定义
			int x;
			Integer x ;
			char c;
			Character c;
				a=10
				c='abc'
					$x=5
					$a='hello'
						var pi=3.14
						var name='tom'
						var label="malloc"
							var a int = 100
							var b = 100
							c:=100
							s1:="Hello"
								let x = 5;
								let mut x = 5;
								let x:i32=100;
								let c='H';
								let hello:&str="hello";
								let hello="hello";

循环	for(int i=0;i<10;i++){}
	while(1){}
	do{…}while(0);
		同 C	同 C，另外：
			for(int i:arrays){}
			for(Object str:strs){}
				for x in lists:
				    xxx
				while x>0:
				    xxx
					同 C，另外：
					foreach(arrays as value)
					{ value }
						同 C，另外：
						for(x in arrays){}
							for a := 0; a < 10; a++ {}
							for a < b {}
							for true{}
							for i, x := range numbers {}
								loop {};
								while number != 0 {}
								for element in a.iter(){}

分支	if(x>1){}
	else if (x>0){}
	else{}
		同 C	同 C	if age >= 6:
				elif age >= 18:
				else:
					if(x>1){}
					elseif (x>0){}
					else{}
						同 C	if a < 0 {}
							else if a <= 5 {}
							else {}
								if x<5 {}
								else if x%3==0 {}
								else {}

switch	switch(c){
	case 'a':
	    break;
	default:
	    break;
	}
		同 C	同 C	无	同 C	同 C	switch marks {
							case 90:
							    grade = "A"
							case 80, 70:
							    grade = "B"
							default:
							    grade = "D"
							}
								match x {
								    1=> println!("One!"),
								    2|3|5|7|11=> println!("prime"),
								    13...19=> println!("teen"),
								    _=> println!("unknown"),
								}

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比较	==,!=,>=,>,<=,<	同 C	同 C	同 C	同 C，另外：===,!==,<>	同 C，另外：===	同 C	同 C
逻辑	&&，‖，！	同 C	同 C	and, or, not	同 C，另外：and, or, not,xor	同 C	同 C	同 C，！取代了~

输入输出	printf
	scanf
		cout<<
		cin>>
			System.out.println
			Scanner input = new Scanner(System.in);
			input.next[Line, Int, Double]();
				print
				input
				raw_input
					echo
					$str=fread(STDIN,1000);
					$fh = fopen('php://stdin','r');
					$str = fread($fh,1000);
						document.write
						var str = prompt(" 请输入数字：", "100");
							fmt.Printf
							fmt.Scanln(&sal)
							fmt.Scanf("%s %d %f %t", &name, &age, &sal, &isPass)
								println!("{},{}", a,b);
								let mut line = String::new();
								std::io::stdin().read_line(&mut line).expect("Failed to read line");
								let num: i32 = input.trim().parse().unwrap();

字 符 串	char * str="hello"
	strcat
	strlen
		string str="hello"
		str1+str2
		str.length()
		str.c_str()
			String str="hello"
			str1+str2
			str.length()
				var="helloworld"
				var1+var2
				var[0:2]
				len()
					$str="hello"
					Strlen
					$str1= $str2."world"
					$str1.="world"
					strlen
						var str="hello"
						str.length
						str1.concact(str2)
							s:="Hello"
							len（s）
							Buf1:=[]byte(s)
								let mut s =String::new();
								let s = "hello".to_string();
								let mut s1 = String::from("foo");
								s.len()

容器	无	vector,list,deque,set,map
		stack,queue
			List(LinkedList, ArrayList),Set(HashSet,TreeSet),
			Map(HashMap,HashTable,TreeMap)
				list,dict,tuple	$cars=array("Volvo","BMW","SAAB");	var mycars= new Array(3)	slice:=[]int{10,20,30,40}
							var countryCapitalMap map[string]string
							countryCapitalMap = make(map[string]string)
							countryCapitalMap["France"] = "Paris"
							agemap:=map[string]int{"tom":21,"lily":18}
								let v: Vec<i32> = Vec::new();
								let v = vec![1, 2, 3];
								v.push(5);
								v.get(2);
								let mut scores = HashMap::new();
								scores.insert(String::from("Blue"), 10);
								let team_name = String::from("Blue");
								let score = scores.get(&team_name);

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Json	库：http://www.json.org Libjson	同 C	JSONObject JSONArray	import json json.dumps json.loads	json_encode Json_decode	toJSONString(); parseJSON();	json.Marshal json.Unmarshal	json::encode json::decode
数组	int a[100]={0}	同 C	double [] myList={1.0,2.5,3.4} double [] myList= new double[100]	List=[1,2,3,4]	$cars=array("Volvo","BMW","SAAB");	var mycars= new Array("Saab","Volvo","BMW")	var arr1 =[2]float32{10.0, 2.0} var arr4 = [3][2]int{{1,1},{3,5},{4,7}}	let a=[1,2,3,4,5]; let a:[i32;5]=[1,2,3,4,5];
导库	#include	#include	import	import	include('log.php')	<script src="js/xx.js" type="text/java script"></script>	import	use
函数	int add(int x, int y){ return x+y; }	同 C	同 C	def add(x, y): total = x + y return total	function add($x, $y){ $z= $x+$y; return $z; }	function add(a, b) { return a + b; }	func divide(x, y int) (int, error) { if y == 0 { return 0, errors.New("zero") } return x / y, nil }	fn myadd(x:i32, y:i32)->i32 { x+y }