North South University

Course: CSE325 − CSE425 Concepts of Programming Language

Section: 1

Instructor: Dr. Kamruddin Nur

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Assignment: Searching long text file with python and shell scripts.

Group Members:

- ○ Name: Moh. Anwar−Ul−Azim Bhuiyan
- Id: 1411181042
- ○ Name: Razibul Raquib
- Id: 1230986040
- ○ Name: Israt Jahan
- Id: 1230555642

Comparison between python, shell script and java:

Characteristic	Java	Python	Shell Script
Readability:			

Feature multiplicity	X++; x=x+1;
	++X; x+=1;
		x=x+1
		x+=1
			x=$((x+1))
			x=$((x++))
			x=$((x+=1)
			)

Concise datatype	Boolean datatype: boolean var=true;	Boolean datatype: x=True	Boolean datatype: x=true
Syntax design	Compound statements curly braces used. Form & meaning: understandable if c/c++ is known	No curly braces Prior knowledge is required: for x in value: print x	Array: ${arr[@]} Prior knowledge is required. For [[expr.]]; do echo "a" done

Write ability:			

Support for abstraction	modifier returnType nameOfMethod
	（Parameter
	List）
	{ // method body }
		def
		funName（ ）:
		#code
			funName（ ）{
			#code
			}

EXPRESSIVITY	Shorthand operators Shortcircuit operators Loops: += && for loop	+= && and in	&& ||
Reliability:			

TYPE CHECKING	Strongly typed:
	int a=5;
		Both strongly typed and dynamic typed:
		X=1
		X="one"
			Loosely typed:
			X="hello"
			X=12

EXCEPTION HANDLING	Exception handling exists:
	try { //Protected code }
	catch（ExceptionType1 e1） {
	//}
	finally { //This block Always executes. }
		Exception handling exists:
		try:
		#code
		except ErrN :
		#code
		pass
			Try/catch or Try/except do not exist.
			Some work can be done using && or
			||

ALIASING	Aliasing using object References: Square box1 = new Square	Assigning value to another variable: a=10	x="ls –la" $x

	（0, 0, 100, 200）； Square box2 = box1;	b=a	
Performance:			

FILE READ	File file = new File（"test.txt"）；
	FileReader fileReader = new FileReader（file）；
	BufferedReader bufferedReader = new BufferedReader（fileReader）；
	StringBuffer stringBuffer = new StringBuffer（ ）；
	String line;
		f=open（"file.txt", "r"）	while IFS='' read −r line || [[−n "$line"]]; do
			echo "$line"
			done < "$1"

DATA STRUCTURE	Use map: Map map = new HashMap（ ）； map.put（"x", new Double（3434.34））； map.get（"x"）；	Use dictionary: Dict={'a':344, 'b':45435}	Associative array: declare −A x=（["a"]="and" ["o"]="or"）