**Assignment 4**

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1.

a.) a (declared in main)

b (declared in main)

c (declared globally)

d (declared in main)

b.) a (declared in if block of f1())

b (declared in if block of f1())

c (declared globally)

d (declared in f1())

e (declared in f1())

c.) a (declared globally)

b (declared globally)

c (declared globally)

d (declared in f1())

e (declared in f1())

d.) a (declared in f2())

b (declared in if block of f2())

c (declared in if block of f2())

e.) a (declared in f2())

b (declared globally)

c (declared in f2())

2. Lua is a lexically (i.e static) scoped language.

Output: 1

9

4

1

3. The C99 short integer type is at least 16 bits in size. And this is the minimum size and not fixed.

4. Perl expression: \d((\_?\d)?)((.\d((\_?\d)?))?)(((e|E)((+|-)?)\d((\_?\d)?))?)

5. PROGRAM main

implicit none

type Array

INTEGER, pointer:: it(10,20)

INTEGER j

end type

type(Array) a1

INTEGER, pointer:: ail(10,5)

allocate (al%it (11))

al%it =(10,5)

ail= al%it

write(\*, ‘(“address”, 10(2x,I2))’) al%it

write(\*,’(“address=”, 5(2x,I2))’) ail

end PROGRAM main

Access function: For a[i][j] = 1020+ ((j-1)M + i)\*4

= 1020 + ((j-1)\*10 + i)\*4

Address of A(10,5)= 1020 + ((5-1)\*10+10)\*4

= 1020 +(50)\*4

= 1020+200

=1220

6.

a.) Access function: 1220 + (i \* 4\* 5 + j \*5 +k) \* 4

1220 +( i\* 20 + j\* 5+ k) \*4

b.) Address of a[2][2][3] = 1220 + (2\*20 + 2\*5 +3)\*4

= 1220 + (40+10+3)\*4

= 1220 + (53)\*4

= 1220 +212

= 1432