Homework 11

Problem1

Express the difference between the procedure of static link and the procedure of dynamic link (with shared library). You can draw a picture to show that.

Problem2

1.Draw a Linux run-time memory image to show the location of GOT,PLT and shared library
2.Express the function of PLT and GOT, And how to use them?
3.When the GOT is generated ,and when the items of it are relocated?(Two situations: Data references and Function Calls)

Problem3

We have introduced HCL in class to design combinatorial logic circuit.Try to write HCL code for the following circuit: Take A,B and C as input,output the max value of them
E.g. Max(3,1,2) = 3

Problem4

Address	Entry	Contents
08049674	GOT[0]	084969c
08049678	GOT[1]	4000a9f8
0804967c	GOT[2]	4000596f
08049680	GOT[3]	[1] printf
08049684	GOT[4]	[2] addvec

PLT[0]
08048404: pushl 0x8049678
804840a: jmp *0x804967c
8048410:

8048412:

PLT[1] <printf>
8048414: jmp *0x08049680
804841a: push $0x0
804841f: jmp 8048404

PLT[2] <addvec>
8048424: jmp* *08049684
804842a: jmp $0x8
804842f: jmp 8048404

The address of printf is X,addvec is Y after the linker link the shared library

1.Before the function's (printf and addvec) first called what is the value of [1] and [2]
2.After the function's (printf and addvec) first called what is the value of [1] and [2]