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Homework 3

3.59)

int switch\_prob(int x, int n)

{

int result=x;

switch(n)

{

case 50:

case 52:

{

x=x<<2;

break;

}

case 53:

{

x=x>>2;

break;

}

case 54:

{

x=3\*x;

x=x\*x;

x=x+10;

break;

}

case 55:

{

x=x\*x;

x=x+10;

break;

}

case 51:

default:

{

x=x+10;

break;

}

}

return result;

}

3.64)

A.

8(%ebp) contains result, 12(%ebp) contains x, 16(%ebp) contains &y

B.

1st: store the pointer which points to y in %edx;

2nd: declare s1 of str1 type and store its memory location in %ecx;

3rd: store value of x in %eax;

4th: assign x to s1.a;

5th: assign &y to s1.p;

C.

Store the values of the structure in consecutive registers and assign the memory location of the structure to the stack pointer so that the values and their memory locations can be passed according to their location

D.

Instead of handling the structure as a whole, the function deals with structure's branches individually.

3.67)

A.

e1.p:0

e1.y:4

e2.x:0

e2.next:4

B.

8 bytes.

C.

void proc(union ele\*up)

{

up->e2.next->e1.p=\*(up->e2.next->e1.p)-up->e1.p;

}

3.70)

A.

long traverse(tree\_ptr tp)

{

long result;

        if(tp==NULL)

        {

                return 0x8000000000000000;

        }

        long x=traverse(tp->left);

        long y=traverse(tp->right);

        if(tp->val>=x)

        {

                result=tp->val;

        }

        else

        {

                result=x;

        }

        if(result<y)

        {

                result=y;

        }

        return result;

}

B. Find the largest value in the tree. If no value is found, return the T\_Min