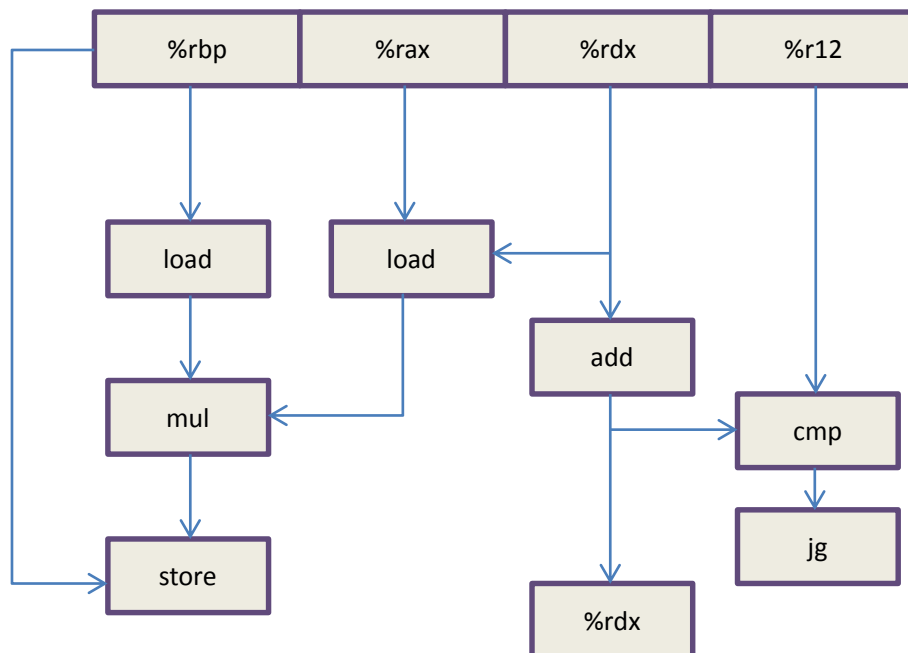


Homework 4 Solutions

Problem 1:

Code	min	max	incre	square
A	1	9	8	8
B	0	1	5	5
C	1	3	2	2

Problem 2:



Problem 3:

Here is a revised version of the function:

```
void prefixSum( float a[], float p[], long int n)
{
    long int i;
    /* last_val holds p[i-1]; val holds p[i] */
    float last_val, val;
```

```

last_val = p[0] = a[0];
for(i = 1; i < n; i++)
{
    val = last_val + a[i];
    p[i] = val;
    last_val = val;
}
}

```

Problem 4:

We can see that the performance limiting computation here is the repeated computation of the expression

$$xpwr = x * xpwr$$

This requires a double-precision, floating-point multiplication (5 clock cycles), and the computation for one iteration cannot begin until the one for the previous iteration has completed. The updating of result only requires a floating-point addition (3 clock cycles) between successive iterations.