

Original Program

```
for(j=0;j<20;j++)  
{  
  r0 = a[j]+b;  
  for(i=0;i<=M;i++)  
  {  
    r1 = in[i];  
    r2 = r1*r0;  
    out2[i] = r2;  
  }  
  out1[j] = r1;  
}
```

Process 1

```
for(j=0;j<20;j++)  
{  
  r0 = a[j]+b;  
  for(i=0;i<=M;i++)  
  {  
    r1 = in[i];  
    store(r1Q, r1);  
    r2 = r1*r0;  
    store(r2Q, r2);  
  }  
}
```

r1Q

r2Q

Process 2

```
for(j=0;j<20;j++)  
{  
  for(i=0;i<=M;i++)  
  {  
    r1 = load(r1Q);  
    r2 = load(r2Q);  
    out2[i] = r2;  
  }  
  out1[j] = r1;  
}
```