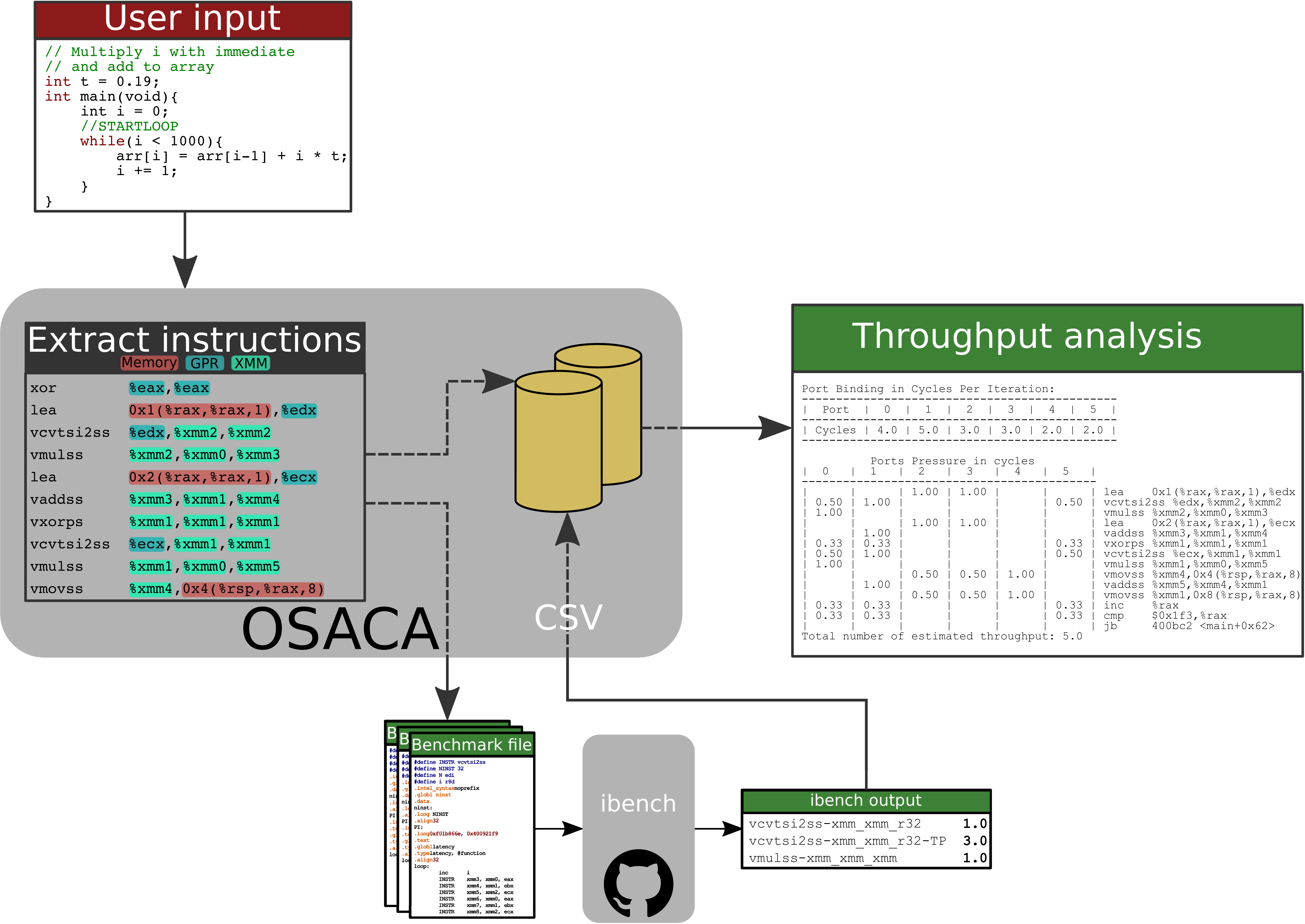

```
// Multiply i with immediate
// and add to array
int t = 0.19;
int main(void){
    int i = 0;
    //STARTLOOP
    while(i < 1000){
        arr[i] = arr[i-1] + i * t;
        i += 1;
    }
}
```

```
xor         %eax,%eax
lea         0x1(%rax,%rax,1),%edx
vcvtsi2ss   %edx,%xmm2,%xmm2
vmulss      %xmm2,%xmm0,%xmm3
lea         0x2(%rax,%rax,1),%ecx
vaddss      %xmm3,%xmm1,%xmm4
vxorps      %xmm1,%xmm1,%xmm1
vcvtsi2ss   %ecx,%xmm1,%xmm1
vmulss      %xmm1,%xmm0,%xmm5
vmovss      %xmm4,0x4(%rsp,%rax,8)
```

```
Port Binding in Cycles Per Iteration:
---------------------------------------------
|  Port  |  0  |  1  |  2  |  3  |  4  |  5  |
---------------------------------------------
| Cycles | 4.0 | 5.0 | 3.0 | 3.0 | 2.0 | 2.0 |
---------------------------------------------

        Ports Pressure in cycles
|  0   |  1   |  2   |  3   |  4   |  5   |
-------------------------------------------
|      |      | 1.00 | 1.00 |      |      | lea    0x1(%rax,%rax,1),%edx
| 0.50 | 1.00 |      |      |      | 0.50 | vcvtsi2ss %edx,%xmm2,%xmm2
| 1.00 |      |      |      |      |      | vmulss %xmm2,%xmm0,%xmm3
|      |      | 1.00 | 1.00 |      |      | lea    0x2(%rax,%rax,1),%ecx
|      | 1.00 |      |      |      |      | vaddss %xmm3,%xmm1,%xmm4
| 0.33 | 0.33 |      |      |      | 0.33 | vxorps %xmm1,%xmm1,%xmm1
| 0.50 | 1.00 |      |      |      | 0.50 | vcvtsi2ss %ecx,%xmm1,%xmm1
| 1.00 |      |      |      |      |      | vmulss %xmm1,%xmm0,%xmm5
|      |      | 0.50 | 0.50 | 1.00 |      | vmovss %xmm4,0x4(%rsp,%rax,8)
|      | 1.00 |      |      |      |      | vaddss %xmm5,%xmm4,%xmm1
|      |      | 0.50 | 0.50 | 1.00 |      | vmovss %xmm1,0x8(%rsp,%rax,8)
| 0.33 | 0.33 |      |      |      | 0.33 | inc    %rax
| 0.33 | 0.33 |      |      |      | 0.33 | cmp    $0x1f3,%rax
|      |      |      |      |      |      | jb     400bc2 <main+0x62>
Total number of estimated throughput: 5.0
```

```
#define INSTR vcvtsi2ss
#define NINST 32
#define N edi
#define i r8d
.intel_syntaxnoprefix
.globl ninst
.data
ninst:
.long NINST
.align32
PI:
.long0xf01b866e, 0x400921f9
.text
.globllatency
.typelatency, @function
.align32
loop:
        inc     i
        INSTR   xmm3, xmm0, eax
        INSTR   xmm4, xmm1, ebx
        INSTR   xmm5, xmm2, ecx
        INSTR   xmm6, xmm0, eax
        INSTR   xmm7, xmm1, ebx
        INSTR   xmm8, xmm2, ecx
```

```
vcvtsi2ss-xmm_xmm_r32       1.0
vcvtsi2ss-xmm_xmm_r32-TP    3.0
vmulss-xmm_xmm_xmm          1.0
```