WE11.1

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Video explanation of solution is provided below the problem.

For all Beta related questions, you should make use of the Beta documentation, the Beta Instruction Summary, and the Beta Diagram.

Compilers

12/12 points (ungraded)
Below you are given the partial results of hand-compiling the following C fragments into Beta assembly language. Please fill in the correct values for **XXX**, **YYY** and **ZZZ** for each of the code fragments. **Make sure to only use valid beta instructions or macros. Also, do not include any spaces in your responses.**

You can assume that the necessary storage allocation for each variable or array has been done, and that a label has been defined that indicates the first storage location for that variable or array. All of the variables are stored in main memory (in the first 32k bytes of main memory so that they can be addressed by a 16-bit literal). You can also assume that all varaibles and arrays are C integers, i.e., 32-bit values.

1.
```
a = b + 3*c;
```

```
      XXX(c,R1)
      YYY(R1,1,R0)        // Make R0 = 2*c
      ADD(R0,R1,R0)
      XXX(b,R1)
      ADD(R1,R0,ZZZ)
      ST(R0,a)
```

XXX = LD ✔

YYY = SHLC ✔

ZZZ = R0 ✔

2.
```
if (a > b) c = 17;
```

```
      LD(a,R0)
      LD(b,R1)
      XXX(R0,R1,R0)
      BT(YYY,_L2)
      CMOVE(ZZZ,R0)
      ST(R0,c)
_L2:
```

XXX = CMPLE ✔

YYY = R0 ✔

ZZZ = 17 ✔

3.
```
a[i] = a[i-1];
```

```
      LD(i,R0)
```

Calculator

```
SHLC(R0,XXX,R0)
LD(R0,YYY,R1)
ST(ZZZ,a,R0)
```

XXX = 2 ✔

YYY = a-4 ✔

ZZZ = R1 ✔

4.

```
sum = 0;
for(i=0;i<10;i=i+1) sum += i;
```

```
      ST(R31,sum)
      ST(R31,i)
_L7:
      LD(sum,R0)
      LD(i,R1)
      ADD(R0,R1,XXX)
      ST(R0,sum)
      ADDC(YYY,1,R1)
      ST(R1,i)
      CMPLTC(R1,ZZZ,R0)
      BT(R0,_L7)
```

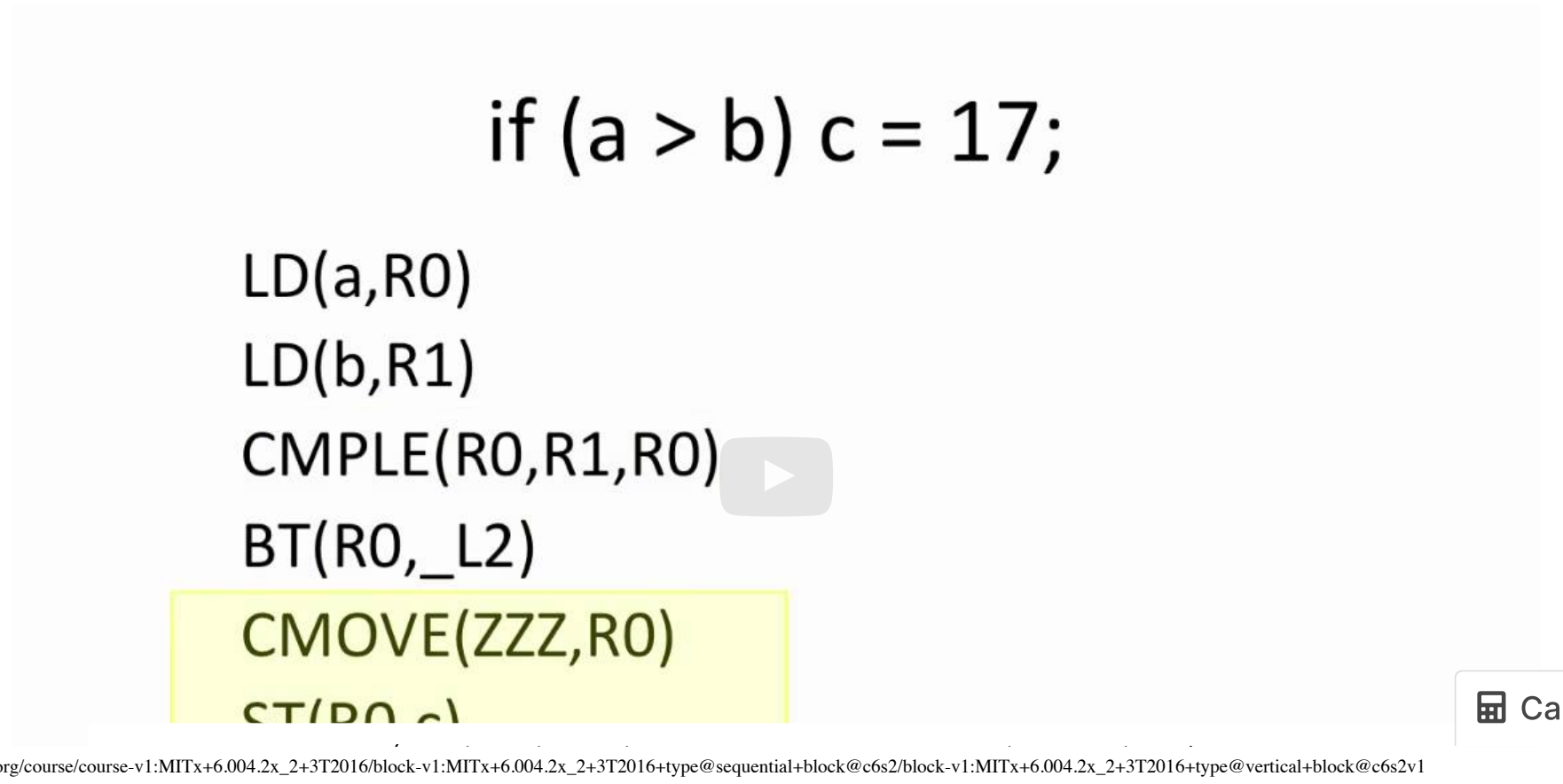
XXX = R0 ✔

YYY = R1 ✔

ZZZ = 10 ✔

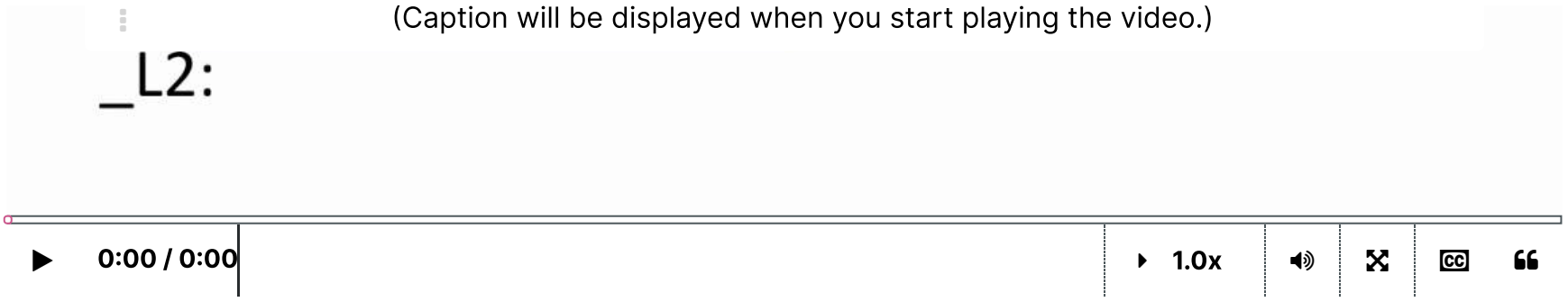
Submit

Compilers



Calculator

(Caption will be displayed when you start playing the video.)



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i am not satisfied with the content of this weeks segment, is there something missing? 4

hi, i do not know if its just me or this weeks segment is missing something, i am not talking about these problems or exercises, it just ...

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