

5. Explain where the GNU compiler would store the value of variable `z` in the following C function:

```
uint8_t add(uint8_t x, uint8_t y)
    uint8_t z;
    z = x + y;
    return z;
}
```

6. Describe the purpose of the `extern` keyword.

7. Write an assembly function that will be called by C. The function should have the following prototype:

```
/* triplets — Compares three unsigned 16-bit integers. If all three
 * values are the same, the function returns 1; otherwise 0 is returned.
 */
uint8_t triplets(uint16_t x, uint16_t y, uint16_t z);
```

8. Which of the four Timer/Counter0 subsystem modes (normal, CTC, PWM phase correct, and PWM fast) allow the period of the waveform on `OC0` to be fine tuned beyond what is possible with the clock select settings?