Question 4 (25 points): The code for function `ArrayManipulation` in the C programming language is as follows:

```
void     ArrayManipulation(int *A, int B*, char *C, char *D)
{
  int            number; /* mapped to $s0 */
  char           letter; /* mapped to $s1 */
  unsigned int   i;      /* mapped to $s2 */
  unsigned int   j;      /* mapped to $s3 */
  ....
}
```

Assuming the variable-to-register mappings listed in the comments above, write MIPS assembly code for the statements below found in `ArrayManipulation`.

1. (**5 points**) `number = A[i];`

2. (**5 points**) `A[j] = B[i+2];`

3. (**5 points**) `letter = C[A[i]];`

4. (**5 points**) `D[B[j]] = letter;`

5. (**5 points**) `C[A[i]+B[j]] = D[j+i];`