COMP 122/L
Summer 2023

Branching MIPS Assembly

For each of the following problems, translate the given C-like code to MIPS assembly. If a register is used in the C-like code, your MIPS code should use the register in the same way. You may use additional registers not used in the C-like code.

1.)

```
if ($t0 == 0) {
  $t1 = 5;
}
```

2.)

```
if ($t0 != 0) {
  $t1 = 6;
} else {
  $t1 = 7;
}
```

3.)

```
do {
  $t0 = $t0 + 1;
} while ($t0 != 12);
```

4.)

```
while ($t0 != 1000) {
  $t0 = ($t0 + 1) * 2;
}
```

5.)

```
if ($t0 < 10) {
  $t1 = 5;
}
```

6.)

```
if ($t0 > 10) {
  $t1 = 3;
}
```

7.)

```
if ($t0 >= 10) {
  $t1 = 5;
}
```

8.)

```
if ($t0 <= 10) {
  $t1 = 5;
}
```

9.)

```
while ($t0 <= 5) {
  $t0 = $t0 + 1;
}
```

10.)

```
while ($t0 > 1) {
  $t0 = $t0 / 2;
}
```

11.)

```
while ($t0 >= 12) {
  $t0 = $t0 - 1;
}
```

12.)

```
do {
  $t0 = $t0 - 1;
} while ($t0 >= 12);
```