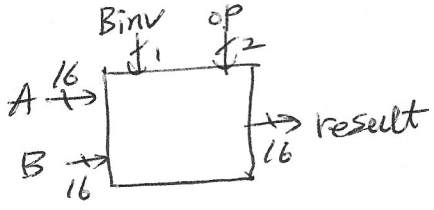
Assign5

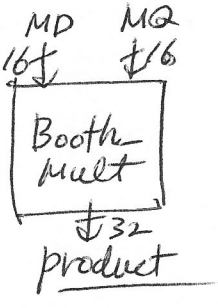
— Write a simulation function for 1bit ALU( ); e.g., ALU_1bit (a, b, Binv, cin, OP, &cout, &result)

— write a simulation func for 16bit ALU()




```
int* ALU16(A, B, Binv, op)
{
  ===
  return result;
}
```

```
— int main()
{ prompt and get 16-bit# for MD;
  prompt and get 16-bit# for MQ;
  int* product = Booth_Mult(MD, MQ);
  display product;
}
```




```
— int* Booth_Mult(MD, MQ)
{ Cycle_counter ← "1111";
  AC ← "00---00";
  MD ← parameter MD;
  MQ ← parameter MQ;
  MQ_1 ← Ø;
  for(1~16)
  { if (MQ0/MQ_1 == ØØ)  AC "00--00" Ø "10"
      AC ← ALU16(A, B, Binv, OP); ——//AC←AC+Ø
    else if (MQ0/MQ_1 == Ø1)
      AC ← ALU16(A, B, Binv, op); — //AC←AC+MD
                                  AC MD Ø "10"
    else if ( == 10)
      ---
    else if ( == 11)
      ---
    — display contents of MD, AC, MQ, MQ_1 and cycle counter;
    — shift AC/MQ/MQ_1 >>1 ; //arith shift
    — display contents of MD, AC, MQ, MQ_1, cycle counter;
  } — update cycle counter;
  return product; // AC/MQ
}
```