

## Q1

```
MOV AX,04H
MOV BX,AX

DECC:
  DEC BX
  CMP BX,00H
  JNE FACTORIAL
  JE MEMORY

FACTORIAL:
  MUL BX
  JMP DECC

MEMORY:
  MOV [0300H],AX
```

Random Access Memory

0100:0300

0100:0300	18	00	00
0100:0310	00	00	00
0100:0320	00	00	00
0100:0330	00	00	00
0100:0340	00	00	00
0100:0350	00	00	00
0100:0360	00	00	00
0100:0370	00	00	00

## Q2(a)

```
MOV AX,9H
MOV BX,9H

START:
  CMP BX,0H
  JNE ADDITION
  JE END

ADDITION:
  DEC BX
  ADD AX,BX
  JMP START

END:
  MOV [3002H],AX
```

Random Access Memory

0100:3002

0100:3002	2D	00	00
0100:3012	00	00	00
0100:3022	00	00	00
0100:3032	00	00	00
0100:3042	00	00	00
0100:3052	00	00	00
0100:3062	00	00	00
0100:3072	00	00	00

## Q2(b)

```
MOV AX,9H
MOV BX,9H
MOV CX,AX

START:
DEC BX
ADD AX,BX
LOOP START

END:
MOV [3004H],AX
```

Random Access Memory

0100:3004 up

0100:3004	2D	00	00	00
0100:3014	00	00	00	00
0100:3024	00	00	00	00
0100:3034	00	00	00	00
0100:3044	00	00	00	00
0100:3054	00	00	00	00
0100:3064	00	00	00	00
0100:3074	00	00	00	00

## Q3

```
MOV AX,09H
MOV BX,05H
MOV CX,07H

CMP AX,BX
JG GREATER
JL LESSER

GREATER:
CMP AX,CX
JG GR
JL GRRR

LESSER:
CMP BX,CX
JG GRR
JL GRRR

GR:
MOV [3006H],AX
HLT

GRR:
MOV [3006H],BX
HLT

GRRR:
MOV [3006H],CX
HLT
```

Random Access Memory

0100:3006 up

0100:3006	09	00	00	00
0100:3016	00	00	00	00
0100:3026	00	00	00	00
0100:3036	00	00	00	00
0100:3046	00	00	00	00
0100:3056	00	00	00	00
0100:3066	00	00	00	00
0100:3076	00	00	00	00