Last name: ..... First name: ..... Group: .....

**ANSWER SHEET TO BE HANDED IN**

**Exercise 1**

| Instruction | Memory | Register |
|---|---|---|
| Example | `$005000  54 AF 00 40 E7 21 48 C0` | A0 = `$00005004`<br>A1 = `$0000500C` |
| Example | `$005008  C9 10 11 C8 D4 36 FF 88` | No change |
| `MOVE.W $5006,(A1)+` | `$005008  48 C0 11 C8 D4 36 1F 88` | A1 = `$0000500A` |
| `MOVE.W #36,4(A1)` | `$005008  C9 10 11 C8 00 24 1F 88` | No change |
| `MOVE.B 3(A2),-4(A1,D1.L)` | `$005008  80 10 11 C8 D4 36 1F 88` | No change |
| `MOVE.L -8(A1),-32(A1,D0.W)` | `$005008  54 AF 18 B9 D4 36 1F 88` | No change |

**Exercise 2**

| Operation | Size (bits) | Result (hexadecimal) | N | Z | V | C |
|---|---|---|---|---|---|---|
| `$5A + $A5` | 8 | `$FF` | 1 | 0 | 0 | 0 |
| `$7F8C + $2000` | 16 | `$9F8C` | 1 | 0 | 1 | 0 |
| `$FFFFFFFF + $FFFFFFFF` | 32 | `$FFFFFFFE` | 1 | 0 | 0 | 1 |

**Exercise 3**

| Values of registers after the execution of the program.<br>**Use the 32-bit hexadecimal representation.** | |
|---|---|
| **D1** = $00000001 | **D3** = $00000032 |
| **D2** = $00000002 | **D4** = $00001011 |

**Exercise 4**

```
IsNumber            move.l  a0,-(a7)

\loop               move.b  (a0)+,d0
                    beq     \number

                    cmpi.b  #'0',d0
                    blo     \notANumber

                    cmpi.b  #'9',d0
                    bls     \loop

\notANumber         moveq.l #1,d0
                    bra     \quit

\number             clr.l   d0
\quit               movea.l (a7)+,a0
                    rts
```

```
GetSum              movem.l a0/d1,-(a7)

                    clr.l   d0
                    clr.l   d1

\loop               move.b  (a0)+,d1
                    beq     \quit

                    sub.b   #'0',d1
                    add.l   d1,d0
                    bra     \loop

\quit               movem.l (a7)+,a0/d1
                    rts
```

```
CheckSum            jsr     IsNumber
                    tst.l   d0
                    bne     \notANumber

\number             jsr     GetSum
                    move.l  d0,d1
                    clr.l   d0
                    rts

\notANumber         clr.l   d1
                    rts
```