Classification of Instructions

- INSTRUCTIONS
  - DATA TRANSFER
  - ARITHMETIC
    - BRANCH
    - BOOLEAN
    - LOGICAL
Data transfer Instructions

- Mov A,      Rn
- Mov A,      Direct
- Mov A,      @Ri
- Mov A,      #Data_8
- Mov Dptr,   #Data_{16}
Data transfer Instructions contd.

- Mov Rn, A
- Mov Rn, Direct
- Mov Rn, #Data₈
- Mov Direct, A
- Mov Direct, Rn
- Mov Direct, #Data₈
- Mov Direct, Direct
Data Transfer Instructions contd.

• Mov Direct, @Ri
• Mov Direct, # Data₈
• Mov @Ri, A
• Mov @Ri, Direct
• Mov @Ri, #Data₈
Data transfer Instructions contd.

• Movx A, @Ri
• Movx A, @Dptr
• Movx @Ri, A
• Movx @dptr, A
• Movc A, @A+Dptr
• Movc A, @A+Pc
Data transfer Instructions contd.

- Push       Direct
- Pop         Direct
- Xch A,     Rn
- Xch A,     Direct
- Xch A, @Ri
- Xchd A,  @Ri
Boolean Instructions

- Clr C
- Clr Bit
- Setb C
- Setb Bit
- Cpl C
- Cpl Bit
Boolean Instructions contd.

- Anl C, Bit
- Anl C, /Bit
- Orl C, Bit
- Orl C, /Bit
- Mov C, Bit
- Mov Bit, C
Branch Instructions contd.

- Jc Reladdr
- Jnc Reladdr
- Jb Bit, Reladdr
- Jnb Bit, Reladdr
- Jbc Bit, Reladdr
Arithmetic Instructions

- Add A, Rn
- Add A, Direct
- Add A, @Ri
- Add A, #Data₈
Arithmetic Instructions contd.

- Addc A, Rn
- Addc A, Direct
- Addc A, @Ri
- Addc A, #Data₈
Arithmetic Instructions contd.

- Subb A, Rn
- Subb A, Direct
- Subb A, @Ri
- Subb A, #Data₈
Arithmetic Instructions contd.

- Inc A
- Inc Rn
- Inc Direct
- Inc @Ri
- Inc Dptr
Arithmetic Instructions contd.

- Dec A
- Dec Rn
- Dec Direct
- Dec @Ri
Arithmetic Instructions contd.

- Mul AB
- Div AB
- DA A
Logical Instructions

- Anl A, Rn
- Anl A, Direct
- Anl A, @Ri
- Anl A, #Data₈
- Anl Direct, A
- Anl Direct, #Data₈
Logical Instructions contd.

- Orl A, Rn
- Orl A, Direct
- Orl A, @Ri
- Orl A, #Data₈
- Orl Direct, A
- Orl Direct, #Data₈
Logical Instructions contd.

- Xrl A, Rn
- Xrl A, Direct
- Xrl A, @Ri
- Xrl A, #Data₈
- Xrl Direct, A
- Xrl Direct, #Data₈
Logical Instructions contd.

- Clr A
- Cpl A
- Rl A
- Rlc A
- Rr A
- Rrc A
- Swap A
Branch Instructions

- Acall Addr11
- Lcall Addr16
- Ret
- Reti
- Ajmp Addr11
- Ljmp Addr16
- Sjmp Reladdr
Branch Instructions

- Jmp @A+Dptr
- Jz Reladdr
- Jnz Reladdr
Branch Instructions  contd

- Cjne  Rn, #Data, Reladdr
- Cjne  @Ri, #Data, Reladdr
- Cjne  A, #Data, Reladdr
- Cjne  A, Direct, Reladdr
Branch Instructions contd

- Djnz Rn, Reladdr
- Djnz Direct, Reladdr
- Nop
Assembly directives

- Directives:
  - ?FILE Directive
  - ?LINE Directive
  - ?SYMB Directive
  - BSEG Directive
  - CODE Directive
  - CSEG Directive
  - DATA Directive
  - DB Directive
  - DBIT Directive
Assembly directives

DS Directive
DSEG Directive
DW Directive
END Directive
EQU Directive
EXTRN Directive
IDATA Directive
ISEG Directive
Assembly directives

NAME Directive
ORG Directive
PUBLIC Directive
RSEG Directive
SEGMENT Directive
SET Directive
USING Directive
XDATA Directive
XSEG Directive