**Jump and Link Instruction:**

**Assembly**

JAL rd imm21

**Machine Encoding**

**Semantics**

Target = PC + sign-extended(imm21)

GPR[rd] = PC + 4

PC = target

**Exceptions**

misaligned target (4‐byte)

**Jump Indirect Instruction**

**Assembly**

JALR rd, rs1,imm12

**Machine Encoding**

**Semantics**

– target = GPR[rs1] + sign‐extend(imm12)

– target &= 0xffff\_fffe

– GPR[rd]  PC + 4

– PC  target

**Exceptions**

misaligned target (4‐byte)