

$$eval = \lambda(r, e).$$

$$(const?(r) \rightarrow evcon(r),$$

$$var?(r) \rightarrow e(r),$$

$$appl?(r) \rightarrow (eval(opr(r), e)) (eval(opnd(r), e)),$$

$$lambda?(r) \rightarrow evlambda(r, e),$$

$$cond?(r) \rightarrow \mathbf{if} \, eval(prem(r), e)$$

$$\mathbf{then} \, eval(conc(r), e) \, \mathbf{else} \, eval(altr(r), e),$$

$$letrec?(r) \rightarrow \mathbf{letrec} \, e' =$$

$$\lambda x. \mathbf{if} \, x = dvar(r) \mathbf{then} \, evlambda(dexp(r), e') \mathbf{else} \, e(x)$$

$$\mathbf{in} \, eval(body(r), e'))$$

$$evlambda = \lambda(\ell, e). \lambda a. eval(body(\ell), ext(fp(\ell), a, e))$$

$$ext = \lambda(z, a, e). \lambda x. \mathbf{if} \, x = z \mathbf{then} \, a \mathbf{else} \, e(x).$$