GPU Assembler

Instruction	31 30 29 28 27	26 25 24 23 22	21	20 19 18 17 16	15 14 13	12 11 10	09 08 07 06	05	04 03 02 01 00
nop	00000	condition							
ploadf_l loadf_h ploadu_l loadu_h ploadaddr_l loadaddr_h	00001	condition	k					l_h	rc
copy fabs fneg fnabs	00010	condition	k_ra	k / ra		sel			rc
fmulp2	00011	condition	k_ra	k / ra	p2				rc
fadd fsub	00100	condition	k_ra	k / ra		sel	rb		rc
fmul	00101	condition	k_ra	k / ra			rb		rc
fdiv	00110	condition	k_ra	k / ra			rb		rc
fmin fmax	00111	condition	k_ra	k / ra		sel	rb		rc
trunc round ceil floor	01000	condition	k_ra	k / ra		sel			rc
ftou8_ll ftou8_lh ftou8_hl ftou8_hh	01001	condition	k_ra	k / ra		sel	rb		rc
ftou16_l ftou16_h	01010	condition	k_ra	k / ra		sel	rb		rc
ftou32	01011	condition	k_ra	k / ra					rc
u8tof_ll u8tof_lh u8tof_hl u8tof_hh	01100	condition				sel	rb		rc
u16tof_l u16tof_h	01101	condition				sel	rb		rc
u32tof	01110	condition					rb		rc
fcomp_l fcomp_le fcomp_e fcomp_ge fcomp_g fcomp_ne fcomp_u	01111	condition	k_ra	k / ra		sel	rb		cr
add	10000	condition	1	ra			rb		rc
load_addr	10001	condition							rc
store_addr	10010	condition				000	rb		
d_load i_load, pop load load_d load_i	10011	condition				sel	rb		rc

Instruction	Opcode	Condition						
d_store i_store store store_d, push store_i	10100	condition	k_ra	k ra		sel	rb	
jump rcall	10101	condition	k		sel	111	k	
goto call	10110	condition			sel	111	rb	
ret	10111	condition				010		
stop_core	11000	condition						
irq	11001	condition						