Project Report CS220

PSD1:

We will use these registers each 32 bits long :

- ➢ $zero : Encoded as 0 to store the value of zero permanently.
- ➢ $t0 - $t7 : Encoded as 1 to 8 to store the values temporarily.
- ➢ $s0 - $s7: Encoded as 9 to 16 to store the values of variables.
- ➢ $a0 - $a3: Encoded as 17 to 20 to store the parameter values
- ➢ $v0 and $v1: Encoded as 21 and 22 to store the return values.
- ➢ $sp : Encoded as 23 to store a pointer to the stack.
- ➢ $ra: Encoded as 24 to store the return address.

PSD2:

- ➢ Each instruction is a 32 bit number, stored in VEDA memory of size 2^8 = 256.
- ➢ We will use another VEDA memory as data memory of size 2^8 = 256.
- ➢ The stack pointer ($sp) will point to the topmost row of the data memory.

PSD3:

- ➢ The layout for R-type instruction is :

6 bits	5 bits	5 bits	5 bits	5 bits	6 bits
opcode	rs	rt	rd	shamt	funct

- ➢ The layout for I-type instruction is:

6 bits	5 bits	5 bits	16 bits
opcode	rs	rt	immediate

- ➢ The layout for J-type instruction is:

6 bits	26 bits
Opcode	address