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Professor Faroughi

CSC 137/ Section 3

Project 4

DATA path and Control Unit

1. Data path circular logic

2 to 1 mux

Add/Sub

A B C D

Register

2 to 1 mux

2 to 1 mux

Modee

S0

S2

S1

1. Control unit

R2

Add/Sub

A B C D

Register

2 to 1 mux

Modee

S0

S2

S1

Reset

Start =0

Mode=d/e=0,m=d,s0=d,s1=d,s2=d

Start =1

Mode=d/e=1,m=d,s0=0,s1=d,s2=d,done=0

Start =d

Mode=0/e=1,m=0,s0=1,s1=0,s2=1,done=0

Start =d

Mode=1/e=1,m=1,s0=1,s1=0,s2=1,done=0

Start =d

Mode=1/e=1,m=0,s0=1,s1=d,s2=0,done=0

Start =d

Mode=0/e=1,m=1,s0=1,s1=d,s2=1,done=0

Start =d

Mode=d/e=0,m=d,s0=d,s1=d,s2=d,done=1

E