

Military Institute of Science and Technology
Department of Computer Science and Engineering
CSE-17A, Level-3, Term-II
CSE-316 (Digital System Design Sessional)

Problem-1 (Grp-1 & Grp-6):

Design a 3-bit combinational logic shifter having following operations.

Operation	Function
$S \leftarrow F$	Transfer
$S \leftarrow F'$	Complement transfer
$S \leftarrow \text{shr } F$	Logical shift right
$S \leftarrow \text{cshl } F$	Circular shift left
$S \leftarrow \text{all } 0's$	Transfer 0's

Problem-2 (Grp-2 & Grp-7):

Design a 3-bit combinational logic shifter having following operations.

Operation	Function
$S \leftarrow F$	Transfer
$S \leftarrow \text{shl } F$	Logical shift left
$S \leftarrow \text{cshr } F$	Circular shift right
$S \leftarrow \text{all } 1's$	Transfer 1's

Problem-3 (Grp-3 & Grp-8):

Design a 3-bit combinational logic shifter having following operations.

Operation	Function
$S \leftarrow F$	Transfer
$S \leftarrow F'$	Complement transfer
$S \leftarrow \text{shl } F$	Logical shift left
$S \leftarrow \text{cshr } F$	Circular shift right
$S \leftarrow \text{all } 0's$	Transfer 0's

Problem-4 (Grp-4 & Grp-9):

Design a 3-bit combinational logic shifter having following operations.

Operation	Function
$S \leftarrow F$	Transfer
$S \leftarrow \text{cshr } F$	Circular shift right
$S \leftarrow \text{cshl } F$	Circular shift left
$S \leftarrow \text{all } 0's$	Transfer 0's
$S \leftarrow \text{all } 1's$	Transfer 1's

Problem-5 (Grp-5 & Grp-10):

Design a 3-bit combinational logic shifter having following operations.

Operation	Function
$S \leftarrow F$	Transfer
$S \leftarrow \text{shl } F$	Logical shift left
$S \leftarrow \text{cshr } F$	Circular shift right
$S \leftarrow \text{cshl } F$	Circular shift left