BLOCK DIAGRAM

DIVISION UNIT

CONTROL LOGIC

REGISTER SET

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ALU (Arithmetic Unit) ALU (Arithmetic Unit)



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CONTROL UNIT CONTROL UNIT

```
Fast divison Algorithm(Newton-Raphson Method):
def fast division(dividend, divisor, precision):
  approx = 1.0 / divisor # Initial approximation
  for in range(precision):
     approx = approx * (2 - divisor * approx)
  quotient = dividend * approx
  return quotient
# Example usage
dividend = 42
divisor = 7
precision = 10
result = fast division(dividend, divisor, precision)
print("Quotient:", result)
Slow division Algorithm(Long division Algorithm):
def slow division(dividend, divisor):
  quotient = 0
  remainder = dividend
  while remainder >= divisor:
     quotient += 1
     remainder -= divisor
```

return quotient, remainder

```
# Example usage
dividend = 42
divisor = 7
quotient, remainder = slow_division(dividend, divisor)
print("Quotient:", quotient)
print("Remainder:", remainder)
```