

1. Write a `pois.prob()` function that computes $P(X = x)$, $P(X \neq x)$, $P(X < x)$, $P(X \leq x)$, $P(X > x)$, and $P(X \geq x)$. Enable the user to specify the rate parameter λ .

```
pois.prob <- function(x, size, prob, type="<=", lambda){  
  if(type == "="){  
    return(dpois(x,lambda))  
  }  
  else if(type == "!="){  
    return(1-dpois(x,lambda))  
  }  
  else if(type == "<"){  
    return(ppois(x-1,lambda))  
  }  
  else if(type == "<="){  
    return(ppois(x,lambda))  
  }  
  else if(type == ">"){  
    return(1-ppois(x,lambda))  
  }  
  else if(type == ">="){  
    return(1-ppois(x-1,lambda))  
  }  
}
```

2. Write a `beta.prob()` function that computes $P(X = x)$, $P(X \neq x)$, $P(X < x)$, $P(X \leq x)$, $P(X > x)$, and $P(X \geq x)$ for a beta distribution. Enable the user to specify the shape parameters α and β .

```
beta.prob <- function(x, size, prob, type="<=", alpha, beta){  
  if(type == "="){  
    return(dbeta(x,alpha,beta))  
  }  
  else if(type == "!="){  
    return(1-dbeta(x,alpha,beta))  
  }  
  else if(type == "<" || type == "<="){  
    return(pbeta(x,alpha,beta))  
  }  
  else if(type == ">" || type == ">="){  
    return(1-pbeta(x,alpha,beta))  
  }  
}
```