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Lab Test: AI Lab Test - II

Date: 28th December 2020

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Ans

WRITE - UP

→ Unification Program

```

def checkOccurs (var, exp):
    if exp.find (var) == -1:
        return False
    return True.
  
```

```

def getFirstPart (expression):
    attributes = getAttributes (expression)
    return attributes [0]
  
```

```

def getRemainingPart (expression):
    predicate = getInitialPredicate (expression)
    attributes = getAttributes (expression)
    newExpression = predicate + "(" + ",".join
        (attributes [1:3]) + ")"
    return newExpression.
  
```

```

def unify (exp1, exp2):
    if exp1 == exp2
        return True
  
```

①

Shivansh

```
if isConstant (exp1) and isConstant (exp2):  
    if exp1 != exp2:  
        return False
```

```
if isConstant (exp1):  
    return [exp1, '1', exp2]
```

```
if isConstant (exp2):  
    return [exp2, '1', exp1]
```

```
if isVariable (exp1):  
    if checkOccurs (exp1, exp2):  
        return False  
    else:  
        return [exp2, '1', exp1]
```

```
if is isVariable (exp2):  
    if checkOccurs (exp2, exp1):  
        return False  
    else:  
        return [exp1, '1', exp2]
```

```
if getInitialPredicate (exp1) != getInitialPredicate (exp2):  
    print ("Predicates do not match. cannot be  
        unified")  
    return False.
```


attribute Count 1 = len (get Attribute Comp 1)

attribute Count 2 = len (get Attribute Comp 2)

if attributes Count 1 != attributes Count 2:
return False

head1 = get First Part (comp 1)

print ("head 1", head1)

head2 = getFirstPart (comp2)

print ("head 2", head2)

initialSubstitution = unify (head1, head2)

print ("initial", initialSubstitution)

if not initialSubstitution:
return False

if attribute Count 1 == 1:
return initialSubstitution

tail1 = get RemainPart (comp1)

print ("tail1", tail1)

tail2 = get RemainPart (comp2)

print ("tail2", tail2)

if initialSubstitution != []:

tail1 = apply (tail1, initialSubstitution)

print ("tail 1", tail1)

tail2 = apply (tail2, initialSubstitution)

print ("tail 2", tail2)

②

Answer

remainingSubstitution = unify (tail1, tail2)
if not remainingSubstitution:
return False

initialSubstitution . extend (remainingSubstitution)
return initialSubstitution.

⑨

Shyam