CMR INSTITUTE OF TECHNOLOGY
(UGC AUTONOMOUS)
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STUDENT REPORT

DETAILS

Name

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EXPERIMENT

Title

WEEK 7

Description

EXPERIMENT NO: 7

Write a program to implement Water Jug Problem.

ALGORITHM:

1. Fill the m litre jug and empty it into n liter jug.
2. Whenever the m liter jug becomes empty fill it.
3. Whenever the n liter jug becomes full empty it.
4. Repeat steps 1,2,3 till either n liter jug or the m liter jug contains d litres of water.

Each of steps 1, 2 and 3 are counted as one operation that we perform. Let us say algorithm 1 achieves the task in C1 no of operations.

Source Code:

```
from collections import defaultdict
jug1,jug2,aim=4,3,2
visited=defaultdict(lambda:False)
def waterJugSolver(amt1,amt2):
    if(amt1==aim and amt2==0)or(amt2==aim and amt1==0):
        print(amt1,amt2)
        return True
    if visited[(amt1,amt2)]==False:
        print(amt1,amt2)
        visited[(amt1,amt2)]=True
        return(waterJugSolver(0,amt2) or waterJugSolver(amt1,0) or waterJugSolver(jug1,amt2) or waterJugSolver(amt1,
jug2) or waterJugSolver(amt1 + min(amt2,(jug1-amt1)),amt2-min(amt2,(jug1-amt1))) or waterJugSolver(amt1 - min(amt1,
(jug2-amt2)),amt2 + min(amt1,(jug2 - amt2))))
    else:
        return False
print("Steps:")
waterJugSolver(0,0)
```

RESULT

0 / 0 Test Cases Passed | 100

VIVA RESPONSES

Q) What is Artificial intelligence?

Making a Machine intelligent

Q) Which is not the commonly used programming language for AI?

PERL

Q) When do we call the states are safely explored?

A goal state is reachable from every state

Q) Which is the best way to go for Game playing problem?

Heuristic Approach

Q) Which is not a property of representation of knowledge?

Representational Verification