**Test Plan**

**Component:**

Class Range{

Range(string expression);

bool Contains(params int[] numbers);

bool DoesNotContains(params int[] numbers);

int[] GetAllPoints();

bool ContainsRange(Range other);

bool DoesNotContainsRange(Range other);

int[] EndPoints();

bool Equals(Range other);

bool DoesNotEquals(Range other);

bool OverlapsRange(Range other);

}

**Test Casos**

**Constructor Range**

|  |  |  |
| --- | --- | --- |
| Range | In | Out |
| “(5,10)” | “(5,10)” | Range created successfully: “(5,10)” |
| “(1,)” | “(1,)” | Invalid Range: “(1,)” |
| “[-1,5]” | “[-1,5]” | Range created successfully: “[-1,5]” |
| “” | “” | Invalid Range: “” |

**Method Contains**

|  |  |  |
| --- | --- | --- |
| Range | In | Out |
| “(5,10)” | 6 | True |
| “[-8,9)” | 9 | False |
| “[-2,2]” | -1,0,1 | True |
| “(10,20]” | 19,20,21 | False |

**Method DoesNotContains**

|  |  |  |
| --- | --- | --- |
| Range | In | Out |
| “(5,10)” | 6 | False |
| “[-8,9)” | 9 | True |
| “[-2,2]” | -1,0,1 | False |
| “(10,20]” | 19,20,21 | True |

**Method GetAllPoints**

|  |  |  |
| --- | --- | --- |
| Range | In | Out |
| “(1,5]” |  | [0,1,2,3,4,5] |
| “(1,)” |  | null |
| “” |  | null |
| “[-2,2)” |  | [-2,-1,0,1] |

**Method ContainsRange**

|  |  |  |
| --- | --- | --- |
| Range | In | Out |
| “(5,10)” | “(6,9]” | True |
| “[-2,2]” | “[-3,2)” | False |
| “[5,10]” | “(5,10)” | True |
| “(3,8)” | “[3,8]” | False |

**Method DoesNotContainsRange**

|  |  |  |
| --- | --- | --- |
| Range | In | Out |
| “(5,10)” | “(6,9]” | False |
| “[-2,2]” | “[-3,2)” | True |
| “[5,10]” | “(5,10)” | False |
| “(3,8)” | “[3,8]” | True |

**Method EndPoints**

|  |  |  |
| --- | --- | --- |
| Range | In | Out |
| “[-2,2]” |  | [-2,2] |
| “” |  | null |
| “(1,6]” |  | [2,6] |
| “(1,)” |  | null |

**Method Equals**

|  |  |  |
| --- | --- | --- |
| Range | In | Out |
| “(5,10)” | “[6,9]” | True |
| “[-2,2]” | “[-3,2]” | False |
| “[2,6]” | “(1,6]” | True |
| “(5,10)” | “[5,9)” | False |

**Method DoesNotEquals**

|  |  |  |
| --- | --- | --- |
| Range | In | Out |
| “(5,10)” | “[6,9]” | False |
| “[-2,2]” | “[-3,2]” | True |
| “[2,6]” | “(1,6]” | False |
| “(5,10)” | “[5,9)” | True |

**Method OverlapsRange**

|  |  |  |
| --- | --- | --- |
| Range | In | Out |
| “(2,6]” | “[4,5]” | True |
| “[5,10]” | “(11,15)” | False |
| “[-2,2]” | “(1,6]” | True |
| “(5,10)” | “(10,20)” | False |