**Module1 – LAB2: Basic Indexes (2)**

***INT206 2/2020***

**\*\* Submit your solution by 27 Jan. 2021 \*\***

**Compare the cost in each case**

1. No additional index.

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| **SQL Statement** | **Index Access**  **(yes/no)** | **Index Name(s)** | **Cost** |
| * 1. select \* from cc where c1 = 888 ; | no | - | 5 |
| * 1. select \* from cc where c2 =29 ; | no | - | 5 |
| * 1. select \* from cc where c3 = 1 ; | no | - | 5 |
| * 1. select \* from cc where c4 = 'z' ; | no | - | 5 |
| * 1. select \* from cc   where upper(c4) = 'Z' ; | no | - | 5 |
| * 1. select \* from cc where c4 in ('a','b','c') ; | no | - | 5 |
| * 1. select \* from cc   where c4 not in ('a','b','c') ; | no | - | 5 |
| * 1. select \* from cc   where c2 = 15 and c3 =3 and c4='z' ; | no | - | 5 |
| * 1. select \* from cc   where c2 = 15 and c3 =3  and c4 in ('a','b','c'); | no | - | 5 |
| * 1. select \* from cc   where c3 =3 or c4='z' ; | no | - | 5 |

1. Set b-tree index on column c1, c2, c3, c4 and (c2,c3,c4)

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| **SQL Statement** | **Index Access**  **(yes/no)** | **Index Name(s)** | **Cost** |
| * 1. select \* from cc where c1 = 888 ; | yes | CC\_C1\_IDK | 1 |
| * 1. select \* from cc where c2 =29 ; | no | - | 5 |
| * 1. select \* from cc where c3 = 1 ; | no | - | 5 |
| * 1. select \* from cc where c4 = 'z' ; | yes | CC\_C4\_IDK | 1 |
| * 1. select \* from cc   where upper(c4) = 'Z' ; | no | - | 5 |
| * 1. select \* from cc where c4 in ('a','b','c') ; | yes | CC\_C4\_IDK | 1 |
| * 1. select \* from cc   where c4 not in ('a','b','c') ; | no | - | 5 |
| * 1. select \* from cc   where c2 = 15 and c3 =3 and c4='z' ; | yes | CC\_C4\_IDK | 1 |
| * 1. select \* from cc   where c2 = 15 and c3 =3  and c4 in ('a','b','c'); | yes | CC\_C2\_C3\_C4\_IDK | 1 |
| * 1. select \* from cc   where c3 =3 or c4='z' ; | no | - | 5 |

1. Set bitmap index on column c1, c2, c3, c4 and (c2,c3,c4)

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| **SQL Statement** | **Index Access**  **(yes/no)** | **Index Name(s)** | **Cost** |
| * 1. select \* from cc where c1 = 888 ; | yes | CC\_C1\_IDK | 0 |
| * 1. select \* from cc where c2 =29 ; | yes | CC\_C2\_IDK | 0 |
| * 1. select \* from cc where c3 = 1 ; | no | - | 5 |
| * 1. select \* from cc where c4 = 'z' ; | yes | CC\_C4\_IDK | 0 |
| * 1. select \* from cc   where upper(c4) = 'Z' ; | no | - | 5 |
| * 1. select \* from cc where c4 in ('a','b','c') ; | yes | CC\_C4\_IDK | 0 |
| * 1. select \* from cc   where c4 not in ('a','b','c') ; | no | - | 5 |
| * 1. select \* from cc   where c2 = 15 and c3 =3 and c4='z' ; | yes | CC\_C2\_C3\_C4\_IDK | 0 |
| * 1. select \* from cc   where c2 = 15 and c3 =3  and c4 in ('a','b','c'); | yes | CC\_C2\_C3\_C4\_IDK | 0 |
| * 1. select \* from cc   where c3 =3 or c4='z' ; | no | - | 5 |