## Unit 3 - Week 1

### Week 1 Assignment 1

1. Is it ethical for the following applications, SToI, never be implemented?

<table>
<thead>
<tr>
<th>Application</th>
<th>Ethical Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>SToI</td>
<td></td>
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</tbody>
</table>

2. What is SToI designed to do?

a. Associate a vector with a sparse matrix

3. What is the purpose of the following functions?

<table>
<thead>
<tr>
<th>Function</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>add</td>
<td></td>
</tr>
<tr>
<td>mull</td>
<td></td>
</tr>
<tr>
<td>norm</td>
<td></td>
</tr>
</tbody>
</table>

4. Which of the following sparse matrix operations is time consuming?

- Accessing a value in a sparse matrix

5. What is the purpose of the following code snippet?

```c
int val = 5;
int *p = &val;
*p = 10;
```

6. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

7. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

8. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

9. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

10. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

11. Which of the following is a valid expression?

- `val + val` (C)

12. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

13. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

14. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

15. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

16. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

### Sparse Matrices

17. Which of the following is a valid expression?

- `val + val` (C)

18. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

19. Which of the following is a valid expression?

- `val + val` (C)

20. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

21. Which of the following is a valid expression?

- `val + val` (C)

22. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

23. Which of the following is a valid expression?

- `val + val` (C)

24. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

25. Which of the following is a valid expression?

- `val + val` (C)

26. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

27. Which of the following is a valid expression?

- `val + val` (C)

28. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```

29. Which of the following is a valid expression?

- `val + val` (C)

30. What is the purpose of the following code snippet?

```c
int *p = &val;
*p = 10;
```