Pointers Worksheet

Solve the given C code snippets. Write output and reasons for the same. Identify if there are any compile time or runtime errors. If any, update the code.

Pointers
1.

```
int x =5;   char c = 'a';
int *p = &x;  char *ch = &c;
printf("%d\n", *p);
printf("%c \t %d\n", *ch, *ch);

p++;
ch++;
printf("%d\n", *p);
printf("%c\n", *ch);

(*p)++;
(*ch)++;
printf("%d\n", *p);
printf("%c\n", *ch);

p--;
ch--;
printf("%d\n", *p);
printf("%c\n", *ch);

printf("%p\t", p); printf("%p\t", &p); printf("%p\n", &x);
printf("%p\t", ch);  printf("%p\t", &ch); printf("%p\n", &c);
```

Arrays and Pointers
1.

```
int a[ ] = { 10, 20, 30};
int *p = a;
int *p = &a;
```

2.

```c
 int a[ ] = { 10, 20, 30};
int *p = a;
printf("%d\t %d\t %d\t  %d\n", a[0], *(a+0), *p, *(p+0));
printf("%d\t %d\t %d\t  %d\n", a[2], *(p+2));
printf("%d\t %d\t %d\n", a, p);
p++;
printf("%d\t %d\t  %d\n", a[0], *p, p[0]);
```

Strings and Pointers

1.
```c
char *s = "Today is Wednesday";
printf("%s\n", s);
printf("%c\n", s[0]);
printf("%d\n", strlen(s));
printf("%c\n", *s);
printf("%c\n", s[strlen(s)-1]);
```

2.
```c
char *s1 = "Hello World";
char s2[20];
strcpy(s2,s1);
printf("%s\n",s2);
```

3.
```c
char *s1 = "Hello World";
char *s2;
strcpy(s2,s1);
printf("%s\n",s2);
```

4..
```c
char *s = "David John";
s++;
printf("%s\n", s);
printf("%c\n", s+3);
printf("%d\n", strlen(s));
```

5.

```
char *s1 = "Hello";
char *s2 = " ";
char *s3 ="World";
char s4[20];
strcat(s4,s1); strcat(s4,s2); strcat(s4, s3);
printf("%s\n",s4);
```

Additional Note:
You can use the following code to check NULL character
while (*s != '\0') { .... }

Note: Write in the Observation Notebook and get it corrected. Each output and interpretations should be unique.

Deadline: 11-05-2023, 4.30 pm.