Summary

1. Variable

```
$var/${var}; length = ${#var};
```

2. Array

```
${array var[$index]}; length = ${#array var[*]}; echo ${array var[*/@]}
```

3. Default Variable

\$0 (shell name); \$! (latest children shell PID); \$\$ (current shell PID); \$- (flag); \$? (return code for latest command executed, 0 is successful; not 0 is failed)

```
$n (nth parameter); $@/$* (parameter list); $# (No of parameter)
```

4. Math Operation

```
$[$var1 + $var2]; $(($var1 + $var2))
```

5. Children Shell

```
var = `command`; var = (command); `command`; (command); echo `command`; echo
$(command)
```

6. Condition Operation

[condition] && command (command executed if condition is true); [condition] || command (command executed if condition is false); commandA && commandB (B executed if A success); commandA || commandB (B executed if A failed)

7. Include

```
. /xx/file = source /xx/file
```

8. Redirect

0 - stdin; 1- stdout; 2- stderr

command 1>/>> stdout.txt 2>/>> stderr.txt; command >/>> output.txt 2>&1

command < file; command <<EOF DATE EOF; '-' used as stdin, usually in script or function