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Date

Page

Q WAP that swap two No

a) by using third variable

int a = 10, b = 7;

int t;

t = a;

t = 10

a = b;

a = 7

b = t;

b = 10

printf(a); \Rightarrow 7

printf(b); \Rightarrow 10

without
using
third
variable

b) int a = 10, b = 7;

a = a + b;

~~a = 17~~

b = a - b;

b = 17 - 7 \Rightarrow 10

a = a - b;

a = 17 - 10 \Rightarrow 7

printf(a); \Rightarrow 7

printf(b); \Rightarrow 10

a = a * b;

~~a = 70~~

b = a / b;

b = 70 / 7 \Rightarrow 10

a = a / b;

a = 70 / 10 \Rightarrow 7

c) Without using third variable in
Single line

Date

Page

3) `int a = 10, b = 7;`

$$a = (a + b) - (b = a);$$

$$\text{swap}(a); \Rightarrow 7$$

$$\text{swap}(b); \Rightarrow 10$$

d) without using any arithmetic operator

4) `int a = 10, b = 7;`

$$a = a \wedge b;$$

$$b = a \wedge b;$$

$$a = a \wedge b;$$

$$\text{swap}(a); \Rightarrow 7$$

$$\text{swap}(b); \Rightarrow 10$$

$$a = 10$$

$$b = 7$$

$$a = 13$$

$$b = 10$$

$$a = 7$$

$$\begin{array}{cccc} 8 & 4 & 2 & 1 \\ 1 & 0 & 0 & 0 \end{array}$$

$$\begin{array}{cccc} 0 & 1 & 1 & 1 \end{array}$$

$$\begin{array}{cccc} 1 & 1 & 0 & 1 \end{array}$$

$$\begin{array}{cccc} 1 & 0 & 1 & 0 \end{array}$$

$$\begin{array}{cccc} 0 & 1 & 1 & 1 \end{array}$$

Q. WAP that take money in rs and
 check how 500 notes can be make
 and remaining amount.

```
Scanner ob = new Scanner(System.in);
    Jopl("enter money in rs");
    int a = ob.nextInt();
    int m = a/500 a/500;
    int r = a%500;
    Jopl("500 Note Can be make" + m);
    Jopl("Remaining Amount = " + r);
```

WAP that check given no is even
 or odd without using
 Modular operator


```
Scanner ob = new Scanner(System.in);
```

```
    doPr("enter a no");
```

```
    int a = ob.nextInt();
```

```
    String p = (a % 2 == 1) ? "odd" : "even";
    doPr(p);
```

Primitive data type in JAVA

Integer	byte	1 byte	-2^7 to $2^7 - 1$
	short	2 "	-2^{15} to $2^{15} - 1$
	int	4 "	-2^{31} to $2^{31} - 1$
	long	8 "	-2^{63} to $2^{63} - 1$
Floating no	float	4 "	
	double	8 "	
Single character	char	2 byte	
true/false	boolean	1 bit	

Note :- String is a class not a data type in JAVA

byte a = 10; ✓

short a = 345; ✓

int a = 49834; ✓

int a = 10.5; In C.T. Error

float a = 10.5; In C.T. Error

float a = 10.5f; ✓

float a = 10; ✓

double a = 10.5; ✓

char a = 'B';

boolean b = true; ✓

String a = "ram";

Note: 1) JAVA does not support signed & unsigned

2) Size of primitive data type is fixed in JAVA

1) `int a = Integer.MIN_VALUE;`
`sol(a);`

2) `int a = Integer.MAX_VALUE;`
`sol(a);`

Non Primitive or user define data type

They created by programmer

Array, class, interface are the
example of non primitive
data type