



Arab Academy for Science and Technology and Maritime Transport

College of Engineering and Technology

Computer Engineering Department

CC112 Structured Programming

Lecture 6

LECTURE 6

Selection Conditions

LECTURE OUTLINE

i. **Switch Statements**

SWITCH STATEMENT

- Used to select one of several alternatives
- **BASED** on the value of a single variable.
- This variable may be an **int** or a **char** but **NOT** a float or double).

SYNTAX

```
switch ( controlling expression )  
{ case set 1 : statements 1 ;  
      break;  
  .  
  .  
  case set n : statements n  
      break;  
}
```

EXAMPLE 1

```
char color ;  
printf("Enter a color: ");  
scanf("%c", &color);  
  
switch (color)  
{  
    case 'R': printf("red\n"); break;  
    case 'B': printf("blue\n"); break;  
    case 'Y': printf("yellow\n"); break;  
}
```

EXAMPLE 2

```
char grade ;
printf("Enter your letter grade: ");
scanf("%c", &grade);
switch ( grade )
{
    case 'A' : printf(" Excellent Job");
                break;
    case 'B' : printf ( " Very Good ");
                break;
    case 'C' : printf(" Not bad ");
                break;
    case 'F' : printf("Faiing");
                break;
    default : printf(" Wrong Input ");
}
}
```



EXAMPLE 3

Write a program to ask the user for the brightness of a light bulb (in Watts), and print out the expected lifetime:

<u>Brightness</u>	<u>Lifetime in hours</u>
25	2500
40, 60	1000
75, 100	750
otherwise	0




```
int bright ;
printf("Enter the bulb brightness: "); scanf("%d", &bright);
switch ( bright )
{
    case 25 : printf(" Expected Lifetime is 2500 hours");
               break;
    case 40 :
    case 60 : printf ( "Expected Lifetime is 1000 hours ");
               break;
    case 75 :
    case 100 : printf("Expected Lifetime is 750 hours ");
                break;
    default : printf("Wrong Input ");
}
}
```

EXAMPLE 4

Write a program that asks a user to enter two integer values, then asks him to choose an operation to perform on these numbers as follows:

+: addition

*: multiplication

-: subtraction

/: division

Then display the result. Write this program once using *if-else* and the other using *switch* statement.



USING IF-ELSE STATEMENT

```
#include<stdio.h>
main()
{int x,y,result; char p;
printf("please enter the first number:");scanf("%d",&x);
printf("please enter the second number:");scanf("%d",&y);
printf("please enter an operation(+ - * /):");scanf("%c",&p);
if (x=='+')
    result=x+y;
else if (x=='-')
    result=x-y;
else if (x=='*')
    result=x*y;
else if (x=='/')
    result=x/y;
printf("result= %d:",result);
}
```

USING SWITCH STATEMENT

```
#include<stdio.h>

main()
{int x,y,result;
  char p;

printf("please enter the first number:");scanf("%d",&x);
printf("please enter the second number:");scanf("%d",&y);
printf("please enter an operation(+ - * /):");scanf("%c",&p);
switch(p)
  { case '+': result=x+y; break;
    case '-': result=x-y; break;
    case '*': result=x*y; break;
    case '/': result=x/y; break;
  }

printf("result= %d:",result);
}
```

THANK YOU