**Switch Statement**

**Writer:** Sayak Haldar

**1)What is the output of this C code(when 1 is entered)?**

#include <stdio.h>

void main()

{

double ch;

printf("enter a value btw 1 to 2:");

scanf("%lf", &ch);

switch (ch)

{

case 1:

printf("1");

break;

case 2:

printf("2");

break;

}

}

a) Compile time error

b) 1

c) 2

d) Varies

Answer) a) Compile time error.

**Compiler will say “Switch quantity not an integer”**

**As,**   
In switch, the expression must be of "an integral type or of a class type for which there is an unambiguous conversion to integral type"

**2. What is the output of this C code(When 1 is entered)?**

#include <stdio.h>

void main()

{

char \*ch;

printf("enter a value btw 1 to 3:");

scanf("%s", ch);

switch (ch)

{

case "1":

printf("1");

break;

case "2":

printf("2");

break;

}

}

a) 1

b) Compile time error

c) 2

d) Run time error

**Answer) b) Compiler time error.**

In switch, the expression must be of "an [integral type](http://msdn.microsoft.com/en-us/library/cc953fe1(v=vs.80).aspx) or of a class type for which there is an unambiguous conversion to integral type"

**3. What is the output of this C code(When 1 is entered)?**

#include <stdio.h>

void main()

{

int ch;

printf("enter a value btw 1 to 2:");

scanf("%d", &ch);

switch (ch)

{

case 1:

printf("1\n");

default:

printf("2\n");

}

}

a) 1

b) 2

c) 1 2

d) Run time error

**Answer) c) 1 2**

**4. What is the output of this C code(When 2 is entered)?**

#include <stdio.h>

void main()

{

int ch;

printf("enter a value btw 1 to 2:");

scanf("%d", &ch);

switch (ch)

{

case 1:

printf("1\n");

break;

printf("hi");

default:

printf("2\n");

}

}

a) 1

b) hi 2

c) Run time error

d) 2

Answer) d) 2  
  
**(No, there wont be any compilation error because of the printf("hi"); statement’s presence after break statement)**

**5. What is the output of this C code(When 1 is entered)?**

#include <stdio.h>

void main()

{

int ch;

printf("enter a value btw 1 to 2:");

scanf("%d", &ch);

switch (ch, ch + 1)

{

case 1:

printf("1\n");

break;

case 2:

printf("2");

break;

}

}

a) 1

b) 2

c) 3

d) Run time error

Answer) b) 2

Because, here, ‘,’ does not work as a separator. Instead, it works as an operator, which chooses the rightmost operand.

**6. What is the output of this C code?**

#include <stdio.h>

int main()

{

int a = 1, b = 1;

switch (a)

{

case a\*b:

printf("yes ");

case a-b:

printf("no\n");

break;

}

}

a) yes

b) no

c) Compile time error

d) yes no

**Answer) c) Compile Time error.**In switch, the expression must be of "an integral type or of a class type for which there is an unambiguous conversion to integral type"

Now, it has to be a **constant of integral type or a class type for which there is an unambiguous conversion to integral type.**

Now, it cannot be an expression. It cannot be even variable. **(it needs to be constant)**

Compiler will say: **case label does not reduce to an integer constant**

**7. What is the output of this C code?**

#include <stdio.h>

int main()

{

int x = 97;

switch (x)

{

case 'a':

printf("yes ");

break;

case 97:

printf("no\n");

break;

}

}

a) yes

b) yes no

c) Duplicate case value error

d) Character case value error

**Answer)c) Duplicate case value error.**

**8. What is the output of this C code?**

#include <stdio.h>

int main()

{

float f = 1;

switch (f)

{

case 1.0:

printf("yes\n");

break;

default:

printf("default\n");

}

}

a) yes

b) yes default

c) Undefined behaviour

d) Compile time error

**Answer)d) Compile time error.**

1. **What is the output of this C code?**

#include <stdio.h>

const int a = 1, b = 2;

int main()

{

int x = 1;

switch (x)

{

case a:

printf("yes ");

case b:

printf("no\n");

break;

}

}

a) yes no

b) yes

c) no

d) Compile time error

**Answer) d) Compile time error.**

In switch, the expression must be of "an integral type or of a class type for which there is an unambiguous conversion to integral type"

Now, it has to be a constant of integral type or a class type for which there is an unambiguous conversion to integral type.

**It cannot even be a variable.**

**10. What is the output of this C code?**

#include <stdio.h>

#define max(a) a

int main()

{

int x = 1;

switch (x)

{

case max(2):

printf("yes\n");

case max(1):

printf("no\n");

break;

}

}

a) yes no

b) yes

c) no

d) Compile time error

Answer) Because, max(a) a is a macro.code replacement for max(2) and max(1) are done in preprocessing time. Which is before compile time.

**11. What is the output of this C code?**

#include <stdio.h>

int main()

{

switch (printf("Do"))

{

case 1:

printf("First\n");

break;

case 2:

printf("Second\n");

break;

default:

printf("Default\n");

break;

}

}

a) Do

b) DoFirst

c) DoSecond

d) DoDefault

Answer)c) DoSecond

Because, printf returns the number of characters successfully printed by it.

**12. Comment on the output of this C code?**

#include <stdio.h>

int main()

{

int a = 1;

switch (a)

case 1:

printf("%d", a);

case 2:

printf("%d", a);

case 3:

printf("%d", a);

default:

printf("%d", a);

}

a) No error, output is 1111

b) No error, output is 1

c) Compile time error, no break statements

d) Compile time error, case label outside switch statement

Answer) d) Compile time error, case label outside switch statement.

**13. Switch statement accepts.**

a) int

b) char

c) long

d) all of the mentioned

Answer) d) all of the mentioned. All of them are integral type.

**14. Comment on the output of this C code?**

#include <stdio.h>

int main()

{

int a = 1;

switch (a)

{

case a:

printf("Case A ");

default:

printf("Default");

}

}

a) Output: Case A

b) Output: Default

c) Output: Case A Default

d) Compile time error

**Answer) d) Compile time error.**

**15. Comment on the output of this C code?**

#include <stdio.h>

switch (ch)

{

case 'a':

case 'A':

printf("true");

}

a) if (ch == ‘a’ && ch == ‘A’) printf(“true”);

b) if (ch == ‘a’)

if (ch == ‘a’) printf(“true”);

c) if (ch == ‘a’ || ch == ‘A’) printf(“true”);

d) none of the mentioned

**Answer) is c)**

**This particular feature is called multiple case use.**