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Programming Constructs – if Selection Statements

2. Selection Statement

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1. A selection statement provides for selection between alternatives
2. A program can take certain route depending on a situation and selection statements help in choosing between the routes.

2. Selection Statement Types

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1. If statements
2. Case Statements
3. Pattern Matching

If Statements

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1. *if [condition] then action1 fi*
2. *if [condition] then action1 else action2 fi*
3. *if [condition] then action1*
   elif [condition] then action2
   else action3 fi

if and else Statement

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```
#!/bin/bash -x

var1=10
var2=10
if [ $var1 -ge $var2 ]
then
        echo "$var2 is greater than or equal to $var1"
else
        echo "$var2 is less then $var1"
fi
iftest.sh (END)
```

```
Narayans-MacBook-Pro:TerminalCommands narayan$ ./iftest.sh
+ var1=10
+ var2=10
+ '[' 10 -ge 10 ']'
+ echo '10 is greater than or equal to 10'
10 is greater than or equal to 10
```

Execution Thread of a Employee Wage Example

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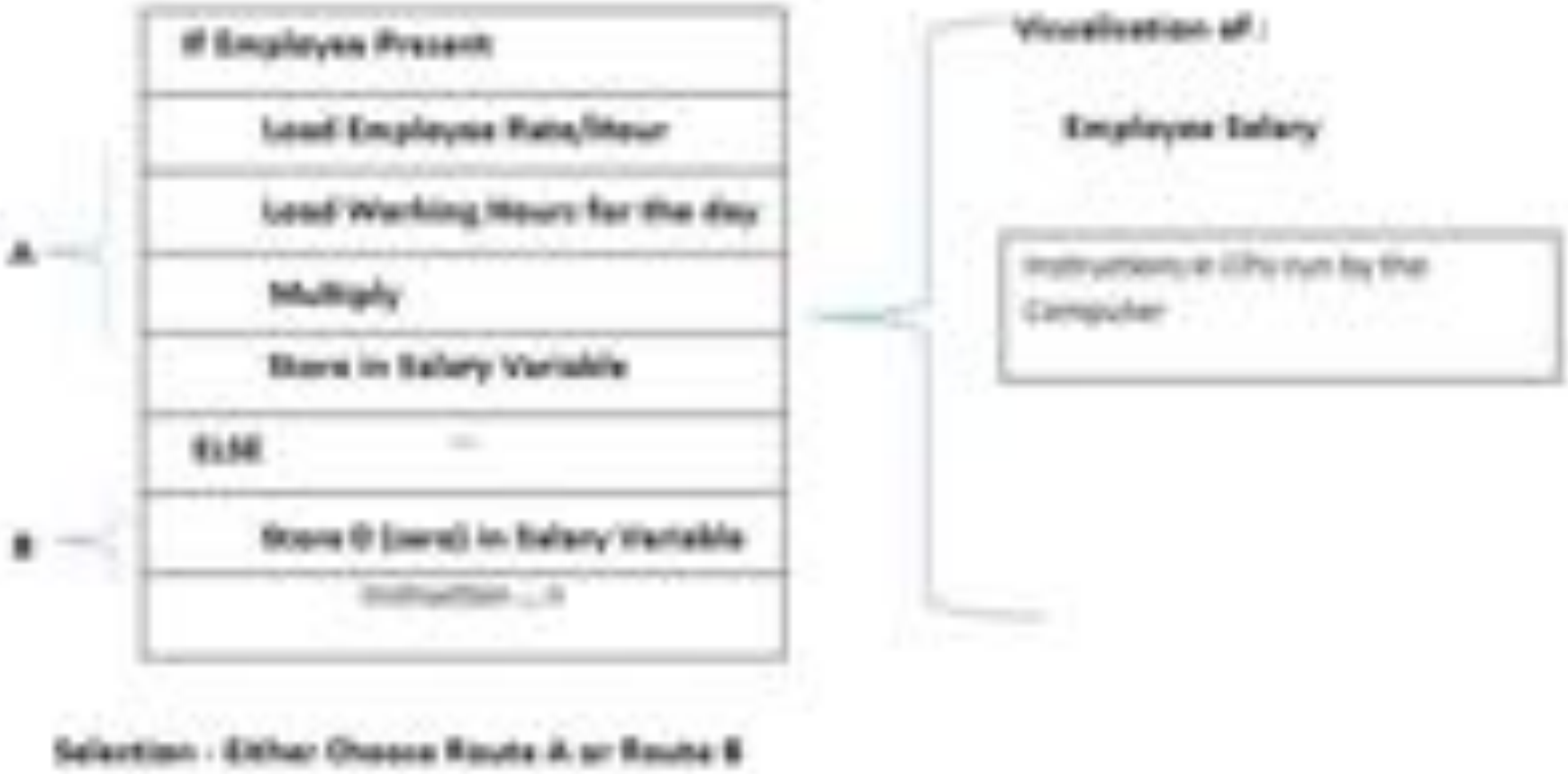

UC 1

Check Employee is Present or Absent

Check Employee is Present or Abscent

```
#!/bin/bash -x

isPresent=1;
randomCheck=$((RANDOM%2));

if [ $isPresent -eq $randomCheck ];
then
        echo "Employee is Present";
else
        echo "Employee is Abscent";
fi
empWageV1.sh (END)
```

```
+ isPresent=1
+ randomCheck=0
+ '[' 1 -eq 0 ']'
+ echo 'Employee is Abscent'
Employee is Abscent
```

UC 2

Calculate Daily Employee Wage

Calculating Employee Wage

```
#!/bin/bash -x

isPresent=1;
randomCheck=$((RANDOM%2));

if [ $isPresent -eq $randomCheck ];
then
        empRatePerHr=20;
        empHrs=8;
        salary=$(($empHrs*$empRatePerHr));
else
   salary=0;
fi
empWageV2.sh (END)
```

```
+ isPresent=1
+ randomCheck=1
+ '[' 1 -eq 1 ']'
+ empRatePerHr=20
+ empHrs=8
+ salary=160
```

Selection Practice Problems with if & else

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1. Write a program that reads 5 Random 3 Digit values and then outputs the minimum and the maximum value
2. Write a program that takes day and month from the command line and prints true if day of month is between March 20 and June 20, false otherwise.
3. Write a program that takes a year as input and outputs the Year is a Leap Year or not a Leap Year. A Leap Year checks for 4 Digit Number, Divisible by 4 and not 100 unless divisible by 400.
4. Write a program to simulate a coin flip and print out "Heads" or "Tails" accordingly.

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Thank You